The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 90, NO. 16 CHICAGO, ILLINOIS APRIL 21, 1928

90
928

ACUTE ASPHYXIA AS A MEDICAL PROBLEM *

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Final control of all the great emergencies causing asphyxia and requiring resuscitation rests with the medical profession. When the physician reaches a case of asphyxiation, all other agencies must conform to his direction. His is the responsibility and on his training and experience the public must rely. Yet, as a result of seven years' participation in the theoretical and practical aspects of acute asphyxia, I have become convinced that physicians in general are not fairly awake to the size of the medical problem presented by asphyxia, to the latest methods of management, or to the interesting problems inherent in the condition, no matter how induced.

The three great emergencies particularly susceptible to proper treatment are drowning, electrical shock, and carbon monoxide poisoning. The first of these is the most frequent and the second the least.

DROWNING

Drowning, so far as is known, presents a relatively simple form of asphyxia. On complete immersion the victim uses up the small amount of oxygen imprisoned in the lungs and goes rapidly on to a degree of generalized oxygen lack, which results in progressive death of the various tissues throughout the body. After complete deprivation of blood—an abrupt method for producing oxygen lack—nerve cells withstand lack of oxygen in the order shown in table 1.[1]

TABLE 1.—*Periods of Resistance of Nerve Cells to Oxygen Deprivation*

Cerebrum, small pyramidal cells	8 minutes
Cerebellum, Purkinje's cells	13 minutes
Medullary centers	20 to 30 minutes
Spinal cord	45 to 60 minutes
Sympathetic ganglions	1 hour
Myenteric plexus	3 hours

Granting that complete immersion in a healthy person does not cut off the oxygen supply so quickly, it would seem that recovery might be attained after from twelve to fifteen minutes. Cases of recovery exist in which the submergence was apparently longer, and the table is consistent with such a possibility owing to the great viability of the medullary centers. Those brain cells suffering first are concerned only with the highest nervous integrations. It requires little acquaintance with the pathology of cerebral lesions to realize that an extensive destruction of the higher cerebrum may leave the mentality of an individual so little changed as to be scarcely detectable.

The heart is a very rugged structure and fails slowly as asphyxia progresses. When accurately observed in experimental asphyxia due to carbon monoxide, the ventricles may cease visible beating, the auricles being still active. If, at this time, one ventilates vigorously with pure oxygen the ventricles will frequently recover, but the recovery is slow and can arise out of a condition in which no suggestion of pulse exists. In the face of such experiences, it is clearly unsafe to pronounce an asphyxiated person dead on one examination. The entire absence of pulse and heart sounds on repeated examinations after a long period of prone pressure artificial respiration should alone cause the physician to declare the patient dead. Public utility companies throughout this country and Canada can supply instances in which a physician after a single examination has pronounced for death and the employees of the company have on their own volition continued artificial respiration and accomplished recovery. In all cases of asphyxia, death should never be admitted until prone pressure artificial respiration has been used for at least an hour. Instructions on resuscitation for the laity advise continuing artificial respiration for four hours. This direction arises from the fact that spontaneous breathing has occurred as long as eight hours after beginning artificial respiration and frequently after more than three hours. In such instances careful and repeated examinations would undoubtedly detect a beating heart in the early stages of the effort at resuscitation.

TABLE 2.—*Deaths from Drowning*

	1921	1922	1923	1924
Total	7,199	6,676	6,677	7,158
Rate per hundred thousand	8.1	7.1	6.9	7.2

Figures for the actual number of deaths from drowning, including suicides and covering the entire registration area with the exception of Hawaii, are available from the census bureau through 1924 (table 2).

No indication can be given of the number of instances of successful treatment, but with the constant spread of knowledge concerning the use of prone pressure artificial respiration it seems fair to conclude that there are not less than 5,000 such cases in a year.

ELECTRICAL SHOCK

Electrical shock, like drowning, produces a simple form of asphyxia but, unlike drowning, is practically never suicidal, the shocked person being usually in the

* From the Department of Physiology, Harvard School of Public Health.

1. Cannon, W. B., and Burket, R.: Am. J. Physiol. **40**: 347, 1916.

best of physical and mental health. With the constant increase in the use of the electric current for every sort of purpose, it is fair to expect a slow gain in the fatalities from shock, and this in spite of every possible precaution in the manufacture and safeguarding of electrical appliances and wiring. There is a type of carelessness inherent in the American people which education does not seem to allay and for which no safeguards are adequate.

TABLE 3.—*Deaths from Electrical Shock*

	1921	1922	1923	1924
Total	741	842	945	977
Rate per hundred thousand	0.8	0.9	1.0	1.0

When fatalities from electrical shock are listed (table 3) as are the cases of drowning, it can be seen that the hazard is obviously far less.

The victim of electrical shock may be found in one of several conditions:

1. Respiration may have ceased but the heart and circulation may be normal. In such a state the victim is unconscious and the respiratory center temporarily paralyzed, so that impulses bringing about contraction of the muscles of respiration are not sent out. Physicians fail to realize how long this state may persist. In a recent case, eight hours elapsed before the center recovered and normal breathing began. Many instances are on record in which there was a period of cessation of more than three hours, and with such cases the electrical industry is thoroughly familiar owing to the publicity given them in the industry itself. Obviously the treatment of these patients consists in the unremitting use of the prone pressure method of artificial respiration.

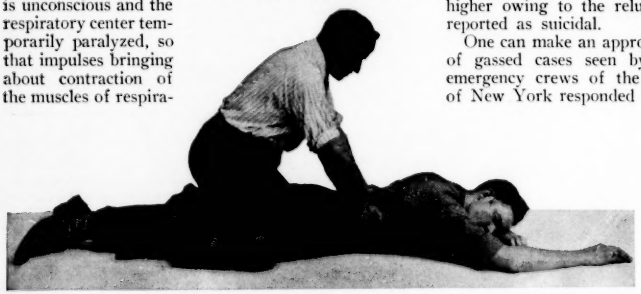

Fig. 1.—Position in which patient should always be placed and kept until conscious; also first position for operator starting artificial respiration.

2. Respiration and circulation may have ceased at the same time, the ventricles of the heart being in fibrillation. When ventricular fibrillation occurs there are no methods for stopping it. Stoppage of fibrillation is known to have occurred in human beings in whom the condition has arisen spontaneously while an electrocardiogram was being made, so that an accurate picture was obtained which showed both onset and cessation.

3. Respiration may be present and the heart stopped; i. e., as in ventricular fibrillation. Such a respiratory condition is always transient and if noticed by bystanders invariably induces false hopes for obtaining recovery. A man received 11,400 volts of alternating current. He was thrown to the floor and said, "Oh my, oh my," eight or ten times. He continued to breathe for about five minutes. No pulse was obtained at any time. Artificial respiration was begun within two minutes and epinephrine was given later. Undoubtedly, the ventricles fibrillated when the shock was received but there was little effect from the current on the cerebrum or medullary centers, which succumbed from oxygen lack after a few minutes. Patients of this type, deprived abruptly of circulation, become deathly pale at once. On the other hand, patients in whom the respiration has stopped and the heart continues to beat—favorable conditions for artificial respiration—become cyanotic as oxygen is lost from the circulating blood. If, with artificial respiration, this cyanosis begins to disappear, the operator has encouraging evidence that the circulation is active.[2]

CARBON MONOXIDE POISONING

Carbon monoxide poisoning from all causes—manufactured gas, automobile exhaust, smoke from fires, the gases from coal heating furnaces—constitutes a slowly increasing hazard. Listed in the same manner as the statistics from cases of drowning and electrical shock, the available figures covering both suicidal and accidental cases are as given in table 4.

The probability is, of course, that the percentage is higher owing to the reluctance with which cases are reported as suicidal.

One can make an approximation of the total number of gassed cases seen by physicians. In 1926, the emergency crews of the Consolidated Gas Company of New York responded to 1,222 calls. Of this number 467 persons died and 755 recovered. Using this relation as an approximation against the total number of cases in 1924, there were 6,750 cured cases and a total of 10,916 possibly seen by physicians.

The gassed patient presents a more complex problem than does the victim of drowning or electrical shock. Carbon monoxide combines with the hemoglobin of the blood, excluding oxygen from the hemoglobin molecule and causing death by oxygen deprivation. The entire process may be very slow. When death occurs, respiration fails before the heart beat ceases; but if at the time respiratory failure takes place the patient is removed from the gas-laden atmosphere and is given artificial respiration, normal breathing can often be restored.

TABLE 4.—*Deaths from Asphyxia*

	1921	1922	1923	1924
Total	3,179	3,487	3,913	4,166
Total suicidal	1,401	1,449	1,535	1,641
Percentage suicidal	44.1	41.6	39.2	39.4
Rate per hundred thousand	3.6	3.7	4.0	4.2

When help arrives, the gassed patient needing careful medical attention will be found unconscious, and, as a rule, breathing in an abnormal manner. Experiments have shown that as gassing progresses the breathing first becomes deeper and more rapid. After a period of varying length, dependent on the concentration of carbon monoxide in the air, this stage is replaced by

2. Those interested in a very clear experimental demonstration of the effect of the current should consult Urquhart, R. W. L.: Experimental Electric Shock, J. Indust. Hyg. **9**: 140 (April) 1927.

shallow, rapid breathing which becomes irregular, weak, and finally ceases. All sorts of variations in rhythm may be seen but the facts of the situation are that in the early, less serious stages of gas poisoning breathing is ordinarily excessive, and that a period of diminished breathing precedes total stoppage. The lowered breathing of advanced gas poisoning frequently necessitates artificial respiration as the first measure in resuscitation.

Many physicians do not seem to know that the prone pressure method of artificial respiration devised by Schäfer [3] has entirely superseded all other methods. It is a disquieting experience for employees of public utility companies to be in process of giving artificial respiration entirely correctly by the prone method and to be ordered by a physician to turn the patient on his back and then to be compelled to watch the physician give artificial respiration by the Silvester method. As an active member of several commissions on resuscitation, I have received letters describing such experiences and asking whether employees must give way to physicians when all evidence makes it certain that the physician advocates a wrong procedure.

Fig. 2.—Second position of operator giving artificial respiration.

Within the past few months all the great agencies [4] to which resuscitation is vital have agreed on the following instructions for giving artificial respiration:

THE PRONE PRESSURE METHOD OF ARTIFICIAL RESPIRATION

Follow these instructions even if the patient appears dead.

As soon as possible feel with your fingers in the patient's mouth and throat and remove any foreign body (tobacco, false teeth, etc.). If the mouth is tight shut, pay no more attention to it until later. Do not stop to loosen the patient's clothing, but immediately begin actual resuscitation. Every moment of delay is serious. Proceed as follows:

1. Lay the patient on his belly, one arm extended directly overhead, the other arm bent at elbow and with the face turned outward and resting on hand or forearm so that the nose and mouth are free for breathing (fig. 1).

2. Kneel, straddling the patient's thighs, with your knees placed at such a distance from the hip bones as will allow you to assume the position shown in figure 1.

Place the palms of the hands on the small of the back with the fingers resting on the ribs, the little finger just touching the lowest rib, with the thumb and fingers in a natural position, and the tips of the fingers just out of sight (fig. 1).

3. With arms held straight, swing forward slowly so that the weight of your body is gradually brought to bear on the patient. The shoulder should be directly over the heel of the hand at the end of the forward swing (fig. 2). Do not bend your elbows. This operation should take about two seconds.

4. Now immediately swing backward so as to remove the pressure completely (fig. 3).

5. After two seconds, swing forward again. Thus repeat deliberately from twelve to fifteen times a minute the double movement of compression and release, a complete respiration in four or five seconds.

6. Continue artificial respiration without interruption until natural breathing is restored, if necessary, four hours or longer, or until a physician declares the patient is dead.

7. As soon as this artificial respiration has been started and while it is being continued, an assistant should loosen any tight clothing about the patient's neck, chest or waist. *Keep the patient warm.* Do not give any liquids whatever by mouth until the patient is fully conscious.

8. To avoid strain on the heart when the patient revives, he should be kept lying down and not allowed to stand or sit up. If the physician has not arrived by the time the patient has revived, he should be given some stimulant, such as 1 teaspoonful of aromatic spirit of ammonia in a small glass of water, or a hot drink of coffee or tea. The patient should be kept warm.

9. Resuscitation should be carried on at the nearest possible point to where the patient received his injuries. He should not be moved from this point until he is breathing normally of his own volition and then moved only in a lying position. Should it be necessary, owing to extreme weather conditions, etc., to move the patient before he is breathing normally, resuscitation should be carried on during the time that he is being moved.

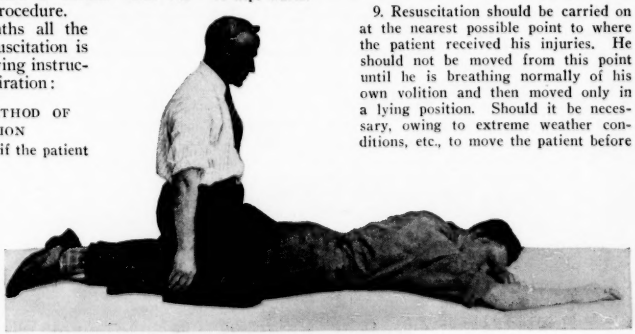

Fig. 3.—Third position of operator giving artificial respiration.

10. A brief return of natural respiration is not a certain indication for stopping the resuscitation. Not infrequently the patient, after a temporary recovery of respiration, stops breathing again. The patient must be watched and if natural breathing stops, artificial respiration should be resumed at once.

11. In carrying out resuscitation it may be necessary to change the operator. This change must be made without losing the rhythm of respiration. By this procedure no confusion results at the time of change of operator and regular rhythm is kept up.

3. Schäfer, E. A.: Artificial Respiration in Man, The Harvey Lectures, 1907-1908, Philadelphia, J. B. Lippincott Company, 1909, p. 223.

4. These directions have been approved by the following organizations: American Gas Association; American Red Cross; American Telephone and Telegraph Company; Bethlehem Steel Corporation; National Electric Light Association; National Safety Council; United States Army; United States Bureau of Mines; United States Bureau of Standards; United States Navy; United States Public Health Service. Physicians desiring pocket size booklets giving these directions and a description of the inhalation treatment of gas poisoning can obtain them from the American Gas Association, 420 Lexington Avenue, New York.

An exercise giving artificial respiration by this method should be included in the course in medical physiology. Not only is it valuable for the students to know the method in terms of actually carrying out the procedure on their fellows, but if artificial respiration is given to the same subject during normal breathing and during apnea produced by overbreathing, the results can form the basis for profitable discussion.

Later, in medical school work, a discussion of the general therapeutics of asphyxia should again give opportunity to demonstrate artificial respiration, together with the inhalation treatment and the necessary measures to be used in the proper care of these unconscious and depressed patients.

IMPROVED METHODS

During the past four years a large amount of research has been directed toward improving the treatment of gas poisoning. In common with previous commissions for making a study of the subject, the last commission of the American Gas Association advised strongly against the use of the pulmotor and other mechanical appliances which produced breathing by forcing air into the lungs and sucking it out. This finding was the result of careful reexamination of the physiologic accomplishments of the pulmotor and other apparatus of similar type.[5] The medical profession is certainly beginning to view the pulmotor with an encouraging degree of disregard. But the device is still purchased freely, particularly by fire companies in the smaller towns and by the unsuspecting custodians of smaller bathing beaches. In the larger communities the pulmotor is rarely seen. It continues to gain mention in the newspapers owing to the ineffaceable conviction of reporters that any form of apparatus for resuscitation is a pulmotor. Curiously enough, I have one record of a physician who objected to the use of inhalation apparatus, thinking the device a pulmotor!

Since the demonstration of the combination of carbon monoxide with hemoglobin by Claude Bernard, cases of gas poisoning have been treated by inhalations of oxygen. Not only does test-tube exposure to pure oxygen of blood saturated with carbon monoxide cause a quicker liberation of carbon monoxide and return to normal than can be obtained by the use of air, but the same fact is observed in animals and persons subjected to gas and given oxygen to breathe. Because patients in the last stages of gas poisoning are invariably breathing very badly, and occasionally not at all, it becomes difficult to make them take oxygen effectively. Consequently, in 1922, Henderson and Haggard[6] recommended the use of a mixture of 95 per cent oxygen and 5 per cent carbon dioxide. The latter gas in this concentration about trebles the volume of breathing and thus carries in a high concentration of oxygen. As in giving oxygen alone, the use of this mixture requires the employment of suitable inhalation apparatus.[7]

There has been a certain amount of discussion as to whether the carbon dioxide is essential. The mixture is obtainable only through special sources and is not readily available in isolated communities. It is my opinion, based on clinical experience in advanced cases, that the carbon dioxide is decidedly valuable, and with this opinion the large experience of the manufactured gas industry is in entire agreement. The benefit is particularly marked in those last-stage cases in which circulatory failure has set in, and I am inclined to feel that the usefulness of the carbon dioxide extends beyond the mere increase in breathing which it causes.[8]

Owing to the activity of the American Gas Association, there are few gas companies in this country which do not possess inhalation apparatus in the hands of men trained in the very simple procedures necessary to bring the device into use. When a physician is called in a case of gas asphyxiation it is his duty, first of all, to see that respiration is maintained by the prone pressure method of artificial respiration, and to send to the local gas company for inhalation apparatus in order to provide the patient with oxygen and reduce the length of the period of asphyxiation as far as possible. If, when the inhalation apparatus arrives, breathing is still absent, the use of the inhalator may be combined with prone pressure artificial respiration by the simple procedure of placing the inhalation mask over the nose and mouth of the patient and continuing artificial respiration, thus substituting 95 per cent oxygen and 5 per cent carbon dioxide for the air moved by the prone pressure maneuver.

Physicians do not realize the readiness with which such assistance can be obtained. For example: A young man was overcome by the exhaust from his automobile, and after forty-five minutes was discovered. He was unconscious and breathing. After a brief time he was taken to a near-by hospital and later to a larger institution where, eight hours following asphyxia, 15 per cent saturation of the blood with carbon monoxide was found and inhalation treatment was given.[9] He remained unconscious and died after five days. In severe gassing such as this, the only chance for the patient resides in the quickest possible relief of asphyxia. The local gas company had inhalation apparatus within 2 miles of the site of the accident, but this was not known and the patient did not receive inhalation treatment at the time when he really needed it—when there was a high carbon monoxide concentration in the blood. The injury done by oxygen deprivation has a direct relation to time, and the time of deprivation is shortened by bringing high concentrations of oxygen into the lungs, instead of leaving the patient dependent on air. This patient was apparently decerebrated by asphyxia. Whether reduction of the period of oxygen want would have resulted simply in preserving a permanently crippled person cannot be said; but it is certain that the only chance for recovery lay in immediate and adequate use of oxygen, and this could have been secured through the cooperation of the local gas company had that fact been known.

There is one precaution relative to the use of the inhalation treatment which should be observed. Present knowledge of the effects of oxygen on the lungs indicates that inhalation of more than 60 per cent of oxygen is dangerous if continued for long periods.[10] Since the most serious sequel of carbon monoxide is pneumonia, it is certainly advisable to avoid, as far as is possible, the chance of pulmonary inflammation due to the 95 per cent oxygen in the inhalation mixture. I have numer-

5. Drinker, C. K.; Drinker, K. R.; Shaw, L. A., and Redfield, A. C.: J. Indust. Hyg. **5**: 109 (Aug.) 1923.

6. Henderson, Yandell; and Haggard, H. W.: Treatment of Carbon Monoxide Asphyxia by Means of Oxygen-Carbon Dioxide Inhalation, J. A. M. A. **79**: 1137 (Sept. 30) 1922.

7. The last commission on resuscitation of the American Gas Association examined and approved three makes of oxygen-carbon dioxide inhalation apparatus. Those interested may obtain details from the American Gas Association.

8. Drinker, C. K.: J. Indust. Hyg. **7**: 539 (Dec.) 1925.

9. It has been found that subjectively recognizable symptoms occur when the blood is 20 per cent saturated with carbon monoxide, that unconsciousness takes place when from 58 to 65 per cent saturation is reached, and death occurs at about 75 per cent saturation. In the patient in question the concentration had slowly reduced during eight hours' time.

10. Binger, C. A. L.; Faulkner, J. M., and Moore, R. L.: J. Exper. Med. **45**: 849 (May) 1927.

ous reports of the continuous use of the inhalation treatment for from twelve to eighteen hours after an accident. Within one and one-half hours of treatment all carbon monoxide should leave the blood, and these instances of prolonged usage seem to be due to the fact that these severely ill, unconscious patients breathe better and are clinically in better condition when taking the inhalation mixture rather than air. Such patients are invariably in hospitals and under close observation. If they are being treated with the 95 per cent oxygen and 5 per cent carbon dioxide mixture, it would seem wise to break the inhalation at frequent intervals, applying the mask only when the breathing shows signs of failure or, better still, to use a mixture of air and 5 per cent carbon dioxide after the real necessity for the high oxygen concentration has passed. At the present time no information is available indicating that even the longest use of the ordinary inhalation mixture has induced pulmonary complications, but the treatment is new and has not received the close clinical observation it requires.

Many requests for information as to the use of the inhalation treatment in electrical shock and drowning have reached me during the past two years, and the makers of approved apparatus do not hesitate to recommend it for use in these emergencies. As far as actual fact is concerned there are no specific indications for the use of inhalation in either of these accidents, prone pressure artificial respiration being invariably the life-saving resource. Possibly the secondary failure of breathing often seen in electrical shock might well be obviated if inhalation apparatus were available. The matter is under observation at the present time, and as experience accumulates a final opinion can be expressed.

Bleeding and transfusion had vogue in carbon monoxide poisoning some years ago, and I find that transfusion is still done but many hours after the carbon monoxide must have left the blood and thus constitutes nothing more than a somewhat gratuitous addition to the normal complement of red cells possessed by the patient. There is no necessity for either of these measures in treating patients. They are far more apt to increase danger than to allay it.

Many inquiries are made as to the use of drugs. In my experience practically all patients with asphyxia are given some sort of hypodermic medication. I have records of the use by physicians of such drugs as strychnine, atropine, camphorated oil, epinephrine, caffeine, digitalis preparations, pituitary extract and alpha-lobelin. It is thus apparently safe to consider that everything has been tried. I am disinclined to believe that any of these drugs influence the issue in asphyxiation. Alpha-lobelin, the most recent member of the group, has been shown to be both inefficacious and dangerous.[11] Those of us with experimental experience in restoring stopped hearts have seen the direct administration of epinephrine bring back a lost power to beat. If either epinephrine or caffeine is to affect such extreme results of asphyxia, it will be through intravenous use and, so far as epinephrine is concerned, in exceedingly small dosage. Caffeine sodiobenzoate given intravenously may have some slight merit in stimulating a depressed respiratory center and possibly in raising the blood pressure. Certainly there seems little chance of doing harm with the drug. Given hypodermically to a patient with greatly depressed circulation there is little chance that caffeine or any of the other drugs mentioned can have any effect except to give the bystanders a comfortable conviction that something formidable is in progress. Inhalation of aromatic spirit of ammonia or a drink of hot coffee after the patient has regained consciousness may be helpful.

In my own experience, next to a lack of knowledge of prone pressure artificial respiration and the inhalation treatment, the most serious mistake made in treating asphyxia consists of too little care in keeping the patient warm. I have seen artificial respiration being given perfectly in a case of electrical shock, with the body uncovered, wet with sweat, and growing more and more chilled each minute.

SUMMARY

The three great emergencies requiring resuscitation are drowning, electrical shock and gas poisoning. Owing to the emergency nature and frequently the very unpleasant circumstances under which these conditions are met in practice, American physicians are not properly alert either to their true nature or to the best methods of treatment. The most recent formulation of rules for prone pressure artificial respiration as given here, and the proper use of that method, constitutes the great life-saving measure in drowning and electrical shock.

In gas poisoning the treatment advocated is the inhalation of 95 per cent oxygen and 5 per cent carbon dioxide. Drugs are used by some physicians, but, with the exception of the occasional intravenous administration of caffeine sodiobenzoate and of very small doses of epinephrine, their use does not merit endorsement.

55 Van Dyke Street.

11. Norris, V. H., and Weiss, Soma: J. Pharmacol. & Exper. Therap. **31**: 43 (May) 1927.

ENCEPHALITIS AS A COMPLICATION OF MEASLES *

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During the past winter at the Charity Hospital of New Orleans, a large number of patients were admitted to the contagious disease wards with a diagnosis of measles. During the epidemic of this disease, 351 cases in all were seen by one of us, who was struck by the occurrence in some of the patients of various, rather irregular, neurologic symptoms. These symptoms were almost entirely observed in small children. They seemed to depend on irritation of the meninges with a concomitant increase in the intracranial pressure, or to be the result of pathologic processes in the encephalon. Eight of these cases came to autopsy.

It is our purpose to report briefly the clinical observations in two of the cases as illustrative of the course of the causative condition, encephalitis, and to report the protocols of the autopsy records in each case. In addition to these eight cases of encephalitis at the Charity Hospital, one of us (G. H. H.) during the epidemic had the opportunity of observing two patients not in the wards of the hospital, and of performing the postmortem examination.

The cases reported here have been selected because they represent the extreme of age of the eight cases that came to autopsy.

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REPORT OF CASES

Case 1.—W. D., a white boy, aged 7 years, was admitted to the hospital on the fourth day of March, and died eight days later. When the child was admitted to the ward, the morbilliform rash was just disappearing and was only faintly discernible. Apparently the child had had the usual course of measles until he was brought into the hospital on account of the development of cerebrospinal symptoms. He was well developed and well nourished, and when examined was lying in bed unconscious, with twitching of the left leg. There was a faint maculopapular eruption over the entire body. The scalp, ears and nose were apparently normal. The eyes were partly closed, but when opened there was found a rather exaggerated lateral nystagmus. The pupils were contracted but equal and reacted sluggishly to light. From time to time the child would grind his teeth. Except for a few râles heard throughout the chest, examination of the thorax was negative, as was that of the abdomen. There was a suggestive Kernig's sign, but the reflexes were otherwise unchanged. A specimen of spinal fluid obtained by puncture was found to have a cell count of 445; globulin was 4+, and smears showed pus cells and lymphocytes. No organisms were found, and the culture itself was negative. The second examination of the spinal fluid made two days after the preliminary one showed a cell count of 115 leukocytes and 3+ globulin; again the culture and smear were negative. The following day the cell count had risen to 274 and the globulin was only 1+. Both the blood and spinal fluid Wassermann reactions were negative, and the colloidal gold reaction was 001211000. The blood culture was negative. March 9, this cell count had fallen to 25. Two days later the count was 6 and the differential count showed chiefly lymphocytes. The spinal puncture was made by the intern, and at the time the fluid was withdrawn it was always clear; it apparently was under little pressure, and from 6 to 20 cc. was withdrawn at the several punctures.

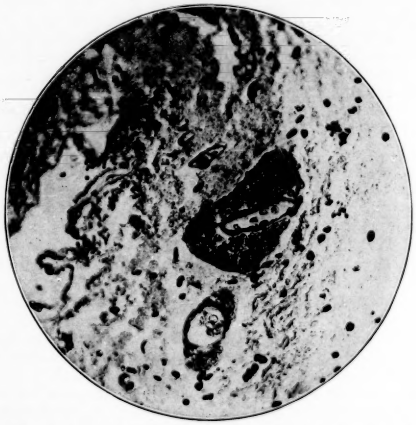

Fig. 1.—Accumulation of erythrocytes circumferentially in perivascular space. There is no injury to the lining epithelium.

The blood count showed red cells varying between 5,200,000 and 5,875,000 per cubic millimeter, and total white cells between 26,000 and 30,500, with the polymorphonuclears varying between 88 and 89 per cent.

During the eight days the child was in the hospital, respiration was markedly accelerated; the pulse rate varied between 130 and 168, and the temperature between 100.5 and 104 F. The child had repeated generalized convulsions, which were apparently not relieved by the spinal punctures. The child died in coma of exhaustion. Only a partial autopsy was permitted. It was held at 7:30 p. m., the night of the child's death, and only the cranium was opened. The vessels of the dura were somewhat injected, and they were markedly congested over the entire surface of the cerebral hemispheres. On section, the entire brain was extremely soft and mushy. The anatomic diagnosis was encephalitis.

Microscopic examination of the brain showed marked injection of the vessels and capillaries. There was a general and diffuse parenchymal round cell infiltration, and particularly around the blood vessels many small hemorrhages were present.

Case 2.—In a girl baby, born in the hospital and subsequently developing measles and encephalitis, a marked feature of the condition was the rapidity of the onset of the encephalitic symptoms and the quick death after their development. The child developed measles twenty-seven days after she was born. The measles rash was well marked five days after admission to the contagious disease ward. During the stay of the child in the ward no unusual symptoms were manifest except those which would be expected in any child gravely ill with measles and a complicating bronchopneumonia until six hours before death, when there was a severe convulsion with marked cyanosis. Repeated convulsions followed the first until death occurred. The child had at all times markedly increased respiration, and the pulse rate ranged between 146 and 160. The temperature averaged 103 but attained a figure of 107 (rectal) shortly before death.

COMMENT

In addition to the eight patients in whom autopsies were performed, several other patients have been observed in whom an encephalitis was undoubtedly present but who recovered. However, we shall not give a detailed clinical report of these cases, as Neal and Appelbaum [1] have already reported on the clinical evidences of the condition, encephalitis. It will suffice to present the pathologic proof of the existence of this complication of measles.

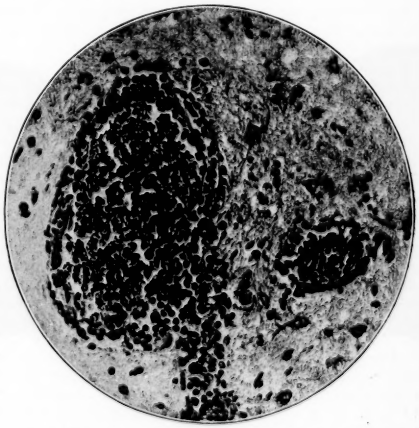

Fig. 2.—Perivascular infiltration of mononuclear cells of lymphocytic variety.

It is interesting to note that the same observation on the relative frequency of encephalitis in measles during the past winter as has just been made in New Orleans was made in New York. We had collected our material some weeks before the New York report appeared. We did not know at that time that in New York also

1. Neal, Josephine B., and Appelbaum, Emanuel: Encephalitis Associated with Measles, J. A. M. A. 88: 1552 (May 14) 1927.

there was being observed this same rare, interesting complication of measles. We were aware that there had never been any previous communication with reference to this complication in a goodly series of cases, though there are two references in the current literature to this complication, and older writers call attention to the very occasional and rare nervous complications,

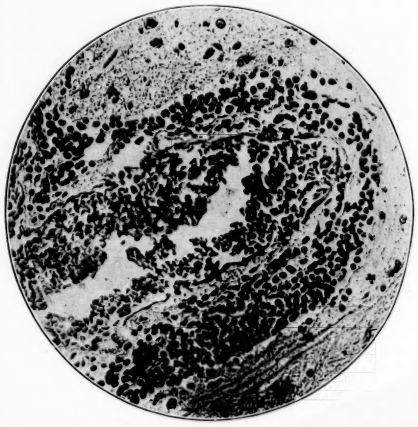

Fig. 3.—Same type of lesion as in figure 2, but showing greater detail as a result of higher magnification.

though never naming these encephalitis. Lowenburg and Schaller [2] detail a case of measles and encephalitis treated with convalescent serum, as does McLendon.[3] It is quite possible that similar observations may have been made in other places throughout the country in an epidemic or in sporadic cases of measles. We do not have any explanation as to why the condition should exist at the present time apparently much more widespread and much more frequent than has been the case in the past. Neal and Appelbaum suggest that it may be because of the increased interest in such conditions on account of discussion stimulated by the prevalence of epidemic encephalitis. This may be true, but it does not explain the pathologic evidences of encephalitis in a fairly large series of cases of measles which came to autopsy, evidences which had not been noted in the past. The pathologic picture in these cases was so pronounced and so obvious that it probably would not have been missed unless the cranial cavity was not opened.

Medical literature and modern textbooks of pathology, as far as we have been able to find, fail to describe any lesions to be found in the brains of patients dying of measles. Either no notice was taken of the lesions during autopsy or examination of the brain was not made, as the cases studied by us, during the present epidemic, showed distinct gross and microscopic lesions of varying degrees. The outstanding gross and microscopic lesions found in this series are as follows:

PATHOLOGY

Gross.—Extensive injection of the pia-arachnoidal vessels and the vessels generally throughout the brain was found. In one of the severe cases, thrombi were noted in the vessels of the pia-arachnoid. None of the cases showed inflammatory exudate over the surface of the brain. There was, however, considerable clear fluid in the subarachnoid spaces. The convolutions were markedly flattened, and the corresponding sulci shallow.

On section of the brain, the striking changes noted were discrete punctate hemorrhages, varying in size from those barely visible to others the size of a small pin head. In addition to the punctate hemorrhages, there were some areas of diffuse hemorrhage. Some of these had altered the consistency of the brain substance, making it appear as areas of softening. The marked congestion and small hemorrhages gave the cut surface of the brain a distinct pink hue. The punctate and diffuse hemorrhages were not confined to any part or portion of the brain, but could be found throughout, and often occurred in the basal ganglions.

Microscope.—A study of the sections removed at autopsy revealed lesions that were in part seen in the brain in other types of encephalitis. There was one lesion, however, that was unlike any infectious encephalitis that we are acquainted with; namely, perivascular hemorrhages about some of the small vessels of the brain (fig. 1). In these there was apparently a diapedesis of erythrocytes, occupying in a circumferential manner the perivascular space. There was no

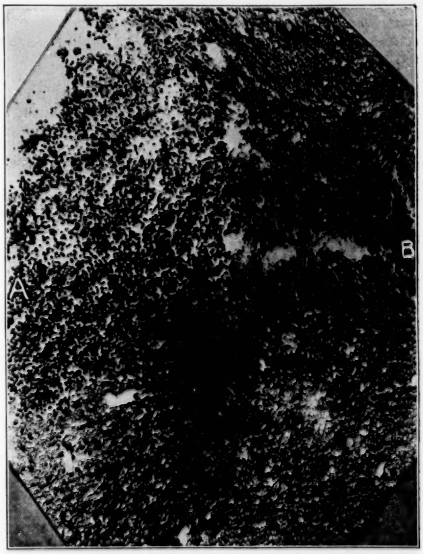

Fig. 4.—*A*, hemorrhage into substance of brain; *B*, marked congestion of small vessel to side of lesion.

diffusion of the erythrocytes beyond this space. A search for injury to the endothelial lining of such vessels did not show any lesion present. Apparently, the red blood cells escaped from the vessel because of the overdistention of the lining endothelium, or because of some other factor, probably toxic in character.

Other vessels of the encephalon, particularly the smaller ones, showed still another type of lesion (figs. 2

2. Lowenburg, H., and Schaller, A. L.: Hemorrhagic Measles with Encephalitis; Recovery, Arch. Pediat. **43**: 73 (Feb.) 1926.
3. McLendon, P. A.: Hemorrhagic Measles Complicating Encephalitis; Convalescent Blood Injection; Recovery, Arch. Pediat. **43**: 544 (Aug.) 1926.

and 3). In these, the perivascular spaces were crowded with cells of the lymphocytic variety. It is remarkable that few if any neutrophils were observed in this type of exudate. The lesion was very marked in one of the cases. Here, again, it should be remarked that no injury or proliferative changes were noted in the endothelial lining of the vessels, and the aggregation of lymphocytes was associated with vessels (perivascular). Occasionally, in sections, an infiltration of round cells of the small lymphocyte type was noted, scattered diffusely through the brain substance. There were also present, especially in the severe cases, small areas of hemorrhage (fig. 4). These were found especially near the base and in the basal ganglions, and consisted of small areas of diffuse interstitial hemorrhage. It is worthy of note that the brain cells did not show any microscopic changes (degeneration), such as are seen in poliencephalitis and certain other conditions, except in the areas of diffuse hemorrhage. Here, presumably, as the result of pressure and interference with the circulation, many of the brain cells, especially the large type, showed all stages of degeneration. It was also remarked that in the areas in which there was diffuse infiltration of lymphocytes the large brain cells were apparently not affected.

SUMMARY

In eight cases of encephalitis occurring in the course of measles, the striking feature of the condition when observed grossly was the presence of numerous discrete punctate hemorrhages throughout the brain. Microscopically, the observation peculiar to this type of encephalitis was perivascular hemorrhage about some of the small vessels of the brain. None of these cases presented any clinical or portmortem evidence of tuberculosis or of syphilis.

1551 Canal Street.

INJECTION OF THE PAROTID GLAND WITH IODIZED OIL *

HADDOW M. KEITH, M.B. (TOR.)
ROCHESTER, N. Y.

Since Sicard and Forestier,[1] in 1921, introduced iodized oil as a medium that is opaque to roentgen rays, this substance has been used extensively to outline certain body cavities, both normal and abnormal.

It occurred to us that it might be of value in determining the anatomic status of the ducts, both large and small, of the parotid gland. In the case reported here treatment was at that time being carried out in this clinic, and iodized oil was injected. Later, a patient who was under study for another condition was given an injection of iodized oil in the right parotid duct.

Some time afterward, it was brought to our attention that in 1926 Carlsten [2] in Germany had described a case of bilateral dilatation of Stenson's ducts in which he used iodized oil as an opaque medium. He injected the oil by means of a ureteral catheter and a syringe, and obtained roentgenograms of the greatly dilated ducts. His roentgenograms show very well the dilated and tortuous portions of the ducts but they do not show the finer terminal branchings in the gland itself. He raised the question whether this procedure could be carried out without risk to these fine ducts.

REPORT OF CASE

A girl, aged 13, who was admitted to the outpatient department, Nov. 1, 1926, complained of swelling at the angle of the jaw on the right side, which occurred every morning. This

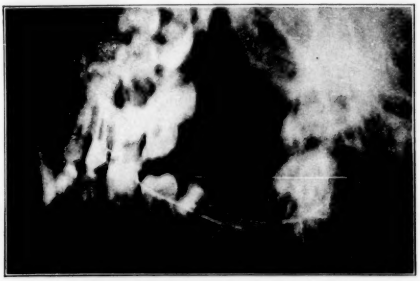

Fig. 1.—Normal parotid gland injected with iodized oil.

swelling was located over the region of the parotid gland and was never very great. There were none of the cardinal signs of inflammation, except the slight swelling. The patient was able to reduce this by passing the finger over the cheek from the ear to the right side of the mouth. A small amount of fluid was pressed out each time. The swelling always occurred in the morning and caused pain on mastication. After massage, and after breakfast had been eaten, the swelling and pain would disappear.

The patient had had mumps at 3 years of age and had had a tonsillectomy and adenoidectomy at 7 years. The onset of the present trouble dated from the operation. The history was otherwise negative, and examination was entirely negative. There was no swelling, tenderness or pain. Pressure along the duct caused a gelatinous substance to be exuded. A roent-

Fig. 2.—Normal parotid gland twenty-four hours after injection with iodized oil.

genogram did not show any stone in the duct but a shadow as of a thickened duct. One tooth showed evidence of periapical rarefaction.

An attempt was made to relieve the distress by dilation of Stenson's duct. This was done, at weekly intervals, by means of filiforms of various sizes. Some improvement occurred, less pain and swelling being noted. This treatment was carried on until April, 1927, when the patient stated that the

* From the Department of Pediatrics, University of Rochester, and the Pediatric Service of the Strong Memorial Hospital.

1. Sicard, J. A., and Forestier, J.: Méthode radiographique d'exploration de la cavité épidurale par le lipiodol, Rev. Neurol. **28**: 1264-1266, 1921; Iodized Oil as Contrast Medium in Radioscopy, Bull. et mém. Soc. méd. d. hôp. de Paris **46**: 463-469 (March 17) 1922.

2. Carlsten, D. B.: Acta Radiol. **6**: 221-223, 1926.

condition was definitely better than when she first came to the hospital.

December 4, a culture from the expressed secretion showed a green-producing streptococcus. January 22, a possible slight obstruction of the duct was noted when the filiform was passed.

It occurred to us that the injection of some opaque fluid might aid in the outlining of the gland for diagnostic purposes. Accordingly, 1.5 cc. of iodized oil was injected into the duct, February 25, a 10 cc. syringe and long 18 gage needle with a smooth rounded tip being used. No difficulty was experienced in carrying out this injection and the patient did not complain of any distress, except for a tense feeling or feeling of fulness in the gland. A plate was taken within five minutes (fig. 3).

About one month later, a similar roentgenogram was made of the left (normal) side. It was noted that the gland filled quickly, only about 0.5 to 1 cc. of iodized oil being injected. A sense of fulness was experienced and a slight sting. A plate was taken within five minutes (fig. 4).

COMMENT

Figure 1 was taken immediately after the injection of approximately 1 cc. of iodized oil into the right parotid duct of a patient with normal parotid glands. This shows the main duct in practically its entire course, as well as many secondary and even terminal branches. It also shows the relation of the parotid gland to the surrounding bony structure. A moderate amount of pressure was necessary to accomplish this, but no distress was experienced other than some tenseness in the parotid region. A second plate (fig. 2) of the same region taken twenty-four hours later does not show any trace of iodized oil.

Figure 3 was taken within five minutes after the injection of 1.5 cc. into the right parotid gland in the case here reported. It shows the outline of apparently dilated ducts, particularly in the hilum of the gland, with irregular globular dilatations in the periphery. This is particularly evident when it is compared with figure 4, which represents an injection of the gland on the opposite side of the face. Here, again, it is seen

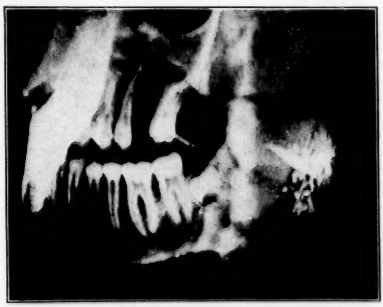

Fig. 3.—Injection of dilated parotid gland with iodized oil in case reported.

that the oil has penetrated into the finer and possibly terminal ducts.

These two roentgenograms also demonstrate clearly the anatomic relation of the parotid gland with regard to underlying bony structures.

In regard to any harm resulting from the injection, it is evident that in a normal gland with a patent duct the oil will be eliminated within twenty-four hours. This is doubtless aided by the flow of saliva. It is significant in this connection that the operation did not cause any pain or distress, but merely a feeling of pressure. Also, and of greater significance, is the fact that at this date, five months after the initial injection, although both glands were injected, the patient has not complained of any untoward alteration in the function

Fig. 4.—Injection of normal parotid gland with iodized oil in case reported.

of either gland or in the appearance of the face. In fact, there has been improvement on the side that was affected.

SUMMARY

1. Injection of the parotid glands with iodized oil may be carried out with from 0.5 to 1.5 cc. of the oil, a 10 cc. syringe and a steel needle with a rounded point being used.

2. With this method, the iodized oil will penetrate into the finer ducts of the gland, under moderate thumb pressure only.

3. In a normally secreting gland, the iodized oil is removed within twenty-four hours.

4. The anatomic relations of the parotid gland can be demonstrated in a roentgenogram by this means, and abnormalities in the size and shape of the ducts can readily be made out.

Crittenden Boulevard.

Tests for a Professorship.—My suggestion to remedy the failure of colleges to provide students with general culture is this: No professor shall be a member of any medical faculty who has not stood, or cannot stand, a verbal examination in medical history conducted by a committee made up of learned professional men, that is by men of learning beyond their profession. Candidates for professorships of histology, for instance, should be familiar with the life of Anthony Leeuwenhoek; for physiology should talk entertainingly and instructively of Cesalpinus, Harvey, Joseph Priestly and Stephen Hale; for anatomy should know Mondinus, Vesalius, Fallopius, Eustachius and Sylvius thoroughly. The candidates for bacteriology should spread good knowledge of Spallanzanzi, Pasteur, Koch, Roux, Behring, Reed and Ross. How an examiner with sadistic streaks would exult should the opportunity come to him to examine some professors of what was once called the theory and practice of medicine as to what they knew of Brown, of Cullen, of Meade, of Radcliffe, Black, Heberden, Haller, Werlhof, Broussais, Louis and so many others! Quacks should be known also: Paracelsus and Mesmer, Perkins and Greatrakes.—Collins, J.: *New England M. J.* **198**:190 (March 15) 1928.

A BULLET IN THE LUNG

BRONCHOSCOPIC REMOVAL WITH THE AID OF MAGNETIC FIXATION

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For reasons elsewhere formulated,[1] magnetism is of very limited usefulness in the extraction of foreign bodies from the air and food passages. The fundamental limitation, of course, is that to be influenced by a magnet the foreign body must be composed, in part at least, of magnetic iron, steel, nickel or cobalt. This requirement eliminates more than 90 per cent of the foreign bodies, as shown by magnetic tests of the 1,900 foreign bodies removed from the air and food passages at the bronchoscopic clinics of Philadelphia and Pittsburgh.

The case reported here, however, illustrates a new method of using magnetism as an aid in bronchoscopic removal of a foreign body from the lung.

REPORT OF CASE

History.—A Canadian soldier, while at the front in France in 1918, was wounded in action and was found to have a compound fracture of the left side of the lower jaw. The wound healed, the fracture united with slight deformity, and the patient was honorably discharged. Later, cough and expectoration developed, with pain in the left side of the chest; fever and hemoptysis supervened, and the patient became quite ill. He applied to the Canadian Department of Soldier's Civil Reestablishment Hospital (Shaughnessay), Vancouver, B. C., where roentgen-ray examination revealed a shadow of a machine-gun bullet in the upper lobe of the left lung. As there was no wound of entrance other than the one on the lower jaw, and no evidence of a wound of exit other than the pharyngeal, it seemed probable that the bullet had been nearly spent and had penetrated only as far as the fauces, whence it was inspirated into the lung. It was therefore evident that the bullet had been in the lung for ten years; and this was corroborated by the roentgen-ray shadows indicating pathologic changes characteristic of prolonged sojourn of a foreign body.

Physical Examination.—Professor McCrea found the patient in fairly good general physical condition. The only well marked and significant physical sign was limitation of expansion all over the left side of the chest.

Roentgen-Ray Examination.—On admission to the Bronchoscopic Clinic, Dr. Willis F. Manges found the bullet to be located in a cavity in the left upper lobe (fig. 1). The wall of the cavity showed clearly; the nearest part was about 5 cm. from the orifice of the left upper lobe bronchus. The bullet itself was about 6 cm. from the orifice of the upper lobe bronchus. This was estimated to be about 12 cm. from the bifurcation of the trachea and 37 cm. from the upper teeth.

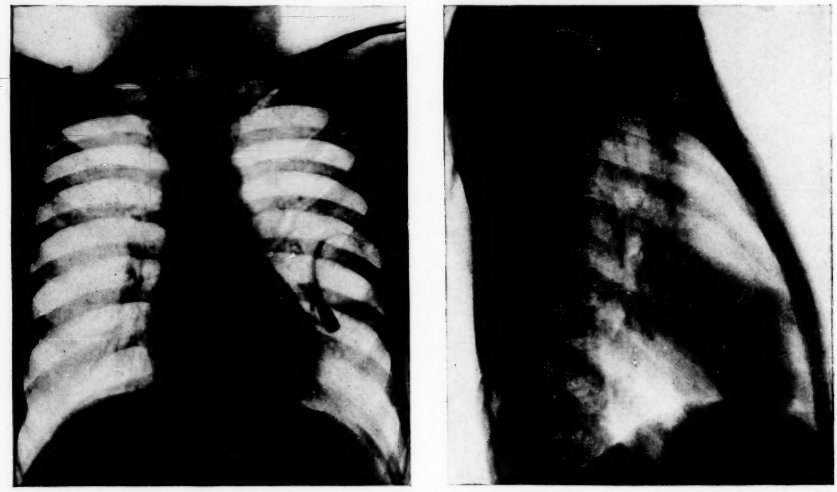

Fig. 1.—Anteroposterior and lateral views of machine gun bullet in the lung. Roentgenograms made by Willis F. Manges.

Bronchoscopy.—The 5 mm. bronchoscope was inserted and pus was found coming from the orifice of the left upper lobe bronchus. By strong displacement the descending branch of the upper lobe bronchus was entered with the tube mouth for a distance of about 3 cm. The special upper lobe bronchus forceps number 7 were inserted with the fluoroscopic aid of Dr. Manges. When the forceps reached the wall of the cavity it was found that the fistula was also closed. The forceps were gradually insinuated through. It was noted by Dr. Manges that the forceps indented the proximal wall of the cavity before penetrating it. After the forceps entered it was noted that the bullet was free to move in the cavity and that the entrance of the forceps displaced the bullet to the extreme upper portion of the cavity, where it was out of reach "round the corner" (fig. 2). The following day I asked my colleague, Dr. William M. Sweet, to bring his magnet to the fluoroscopic room and to determine whether or not the bullet was sufficiently magnetic to be influenced by the magnet applied externally to the chest wall. When the

1. Jackson, Chevalier: Peroral Endoscopy and Laryngeal Surgery, St. Louis, Laryngoscope Publishing Company, 1914; Bronchoscopy and Esophagoscopy, Philadelphia, W. B. Saunders Company, 1927; Foreign Bodies in the Trachea, Bronchi and Esophagus: The Aid of Bronchoscopy, Esophagoscopy and Magnetism in the Extraction, Laryngoscope, April, 1903.

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current was turned on the bullet was jerked down from its high position, striking the bottom of the cavity with an impact that was felt by the patient.

Second Bronchoscopy.—The bronchoscope was introduced as before and on insertion of the upper lobe bronchus forceps number 7 the bullet again flew up to the top of the cavity. Dr. Sweet then applied his magnet externally to the chest wall under the lower border of the lowest rib. The bullet was promptly jerked down to the bottom of the cavity and was held there by magnetic force until the bullet could be grasped with the bronchoscopic upper lobe bronchus forceps (fig. 3). The first grasp was crosswise, in which position traction would have been fatal. The grasp was released and, the magnetic fixation continuing, the bullet was regrasped by the end and withdrawn. About fifteen minutes of moderate careful traction was required for sufficient dilatation of the strictured fistula to permit withdrawal of the bullet.

Progress.—There was no reaction and the patient was discharged to the care of the Canadian Department of Soldier's Civil Reestablishment Hospital. Recovery was uneventful.

The Bullet.—Examination of the bullet (fig. 4) showed it to be steel-jacketed; the jacket was corroded. Application of a 6-inch permanent horseshoe magnet strongly attracted and held the bullet in the specimen bottle as an armature across the poles.

The patient having been shot in action against the Germans, inquiry was made to Surgeon General Ireland for information as to the German machine gun bullet. He very courteously obtained from the ordnance department and sent to me a blue print of the specifications of each of the two types of machine-gun ammunition used by the Germans during the Great War.

1. Service ball ammunition, weighing 154 grains (10 Gm.).
2. Armor-piercing bullets, weighing 178 grains (11.5 Gm.).

The weight of the bullet bronchoscopically removed from the patient was 143 grains (9.3 Gm.). Allowing 9 grains (0.6 Gm.) for the loss by friction and by corrosion, it was evident that this bullet was of the service ball type. It was not filed away to determine its structure. It is interesting to note that of the two types of bullet this is the less magnetic by reason of the fact that the armor-piercing bullet has a steel core in addition to the steel jacket. Both, however, are pulled strongly by magnetic force.

Fig. 2.—Bullet displaced to upper portion of abscess cavity by insertion of bronchoscopic forceps. The bullet was pulled down to the position shown in figure 1, to bring it within the grasp of the forceps, by the application to the external chest wall of a Sweet eye magnet.

COMMENT

1. Without magnetic fixation the bullet could not have been grasped by bronchoscopic instruments inserted through the mouth, because of the "round the corner" position of the bullet in the left upper lobe.

2. The bullet could not have been withdrawn through the mouth by any form of magnet, because no magnet practicable for such use could have sufficient power to withdraw the bullet through the tighty strictured fibrous passage. Though the bullet was free to move in the abscess cavity, a few pounds of tractive effort were necessary to withdrawn it through the fistula.

3. For a bullet to be influenced by magnetism it is necessary that it be composed in part at least of cobalt, nickel, iron or steel, and it must be of magnetic forms of these metals. Certain alloys of nickel and steel are not magnetic. Fortunately, in this case the bullet was highly magnetic.

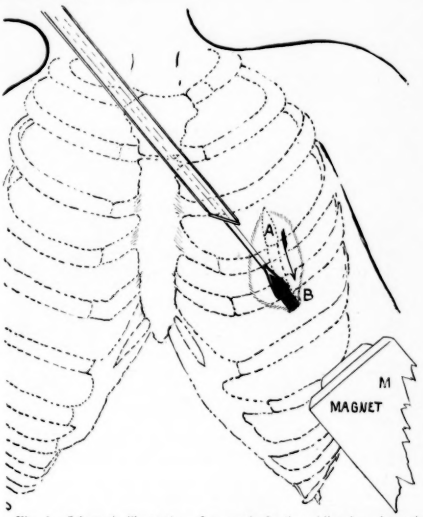

Fig. 3.—Schematic illustration of magnetic fixation aiding bronchoscopic removal of a bullet that was "up round the corner" (*A*) out of reach in the left upper lobe bronchus. Application of the Sweet eye magnet (*M*) to the external wall of the chest pulled the bullet down from position *A* to position *B* and fixed it there until it could be firmly grasped with bronchoscopic forceps, with which the bullet was removed through the mouth.

4. In the case of a bullet or any other foreign body of similar size anywhere in the lungs, except in one of the upper lobes and except for the special purpose herein indicated, a magnet would be a time-wasting, cumbrous impediment, and probably would be unsuccessful. Bronchoscopic removal by direct vision in the regular way leaves nothing to be desired as to promptness, facility, efficiency or safety.

Fig. 4.—Actual size of bullet. The jacket contained enough steel to render the bullet highly magnetic.

235 South Fifteenth Street.

Sauerkraut Not Uniform Quality.—The business of making sauerkraut has been subjected to a prolonged study at the university with the finding that the manufacture of a uniform quality of the product is made hard by the fact that no two vats ever produce precisely the same results. "The fermentation of cabbage is a spontaneous one, and manufacturers must take the undesirable organisms along with the desirable ones," a statement from the university declares. "Because of this chance inoculation there is a wide variation in the quality of sauerkraut and although the general character of fermentation is similar in all vats, no two are exactly the same." The statement declares that freezing cabbage does not injure it for kraut making purposes if the temperature is not so low as to break down the tissue of the cabbage.—*Wisconsin M. J.* **27**:136 (March) 1928.

THE THYROID GLAND IN INFECTIONS

PRELIMINARY REPORT *

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AND
N. A. WOMACK, M.D.
ST. LOUIS

An enormous amount of experimental and clinical work has been done on the thyroid gland during the past two or three decades, with the discovery of valuable data relative to the prevention and treatment of goiter,

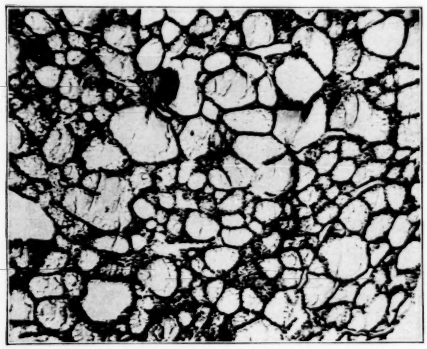

Fig. 1.—Section of thyroid gland taken from healthy dog. There is a very slight increase in the number of interacinose cells above that seen in the normal human gland.

but without the production of any satisfactory information regarding the etiology. The work of Baumann,[1] who demonstrated in 1895 that the thyroid gland contains iodine, and of Oswald,[2] who a few years later isolated thyroglobulin and the nucleoproteins, contained the basic facts on which the modern advancements in prevention and treatment of goiter have been dependent. It seems safe to prophesy, however, that very little progress can be expected until the etiologic factors are better understood.

We have observed, as has been noted by others, that the normal histologic picture in animals, especially the dog, is somewhat variable. A number of apparently healthy dogs will reveal a mild, early hyperplasia in certain areas of the thyroid gland with a numerical increase in the interacinar cells. This hyperplasia is relatively uncommon in our experience, especially when compared with the reports of other workers, presumably because the locality around St. Louis does not constitute a "goiter region." In a series of experiments on dogs, we undertook to produce pathologic changes in the thyroid and noted marked changes, many of which were of the hyperplastic type, after the production of certain kinds of infections and toxemias. The thyroid glands of laboratory animals which succumbed to such conditions as peritonitis and pneumonia, most of which were secondary to an operation, were analyzed for their iodine content after a small piece had been removed for microscopic section. Careful weights of the glands were obtained, deductions being made for the pieces removed for section, and iodine determinations were made according to the method of Hunter, as modified by Kendall. Peritonitis was also produced by ligation of the appendix and its mesentery, and empyemas were produced by the injection of streptococci and staphylococci into the pleural cavity. Sections of the thyroid were also removed from animals suffering from intestinal obstruction and severe subcutaneous infections produced by the injections of fecal material. In practically all animals, which were killed by one of the methods mentioned, the iodine content of the thyroid gland was found to be diminished, and a quite constant destruction of acinose cells noted, with an accompanying attempt at hyperplasia.

In a series of seven dogs which were killed by the methods mentioned, the iodine content was compared to that of seven control dogs of equal weight which were kept and fed under the same circumstances as the dogs which died from experimentally induced infections. Analyses revealed 0.147 mg. of iodine per kilogram of body weight in the thyroids of the dogs with infection, as compared with 0.382 mg. of iodine per kilogram of body weight in the thyroids of the healthy control dogs. In other words, the thyroid gland of the healthy animals contained slightly more than twice the amount of iodine contained in the dogs with infection. The weights of the thyroids, however, varied in an inverse manner. There was 0.294 Gm. of thyroid tissue per kilogram of body weight in the dogs with infection, whereas the healthy control animals had only 0.191 Gm. of thyroid tissue per kilogram of body weight.

There is a gross relationship between the amount of colloid and the amount of iodine found by analysis, but instances were encountered in which this relationship was by no means exact. Many of the thyroids in the dogs which succumbed to infection were so cellular as to be absolutely free from any visible colloid, but were found to have from 50 to 60 per cent as much iodine as the thyroid in a normal dog of equal weight. Apparently, the thyroid cells contain a substance which holds iodine in chemical combination within the cell.

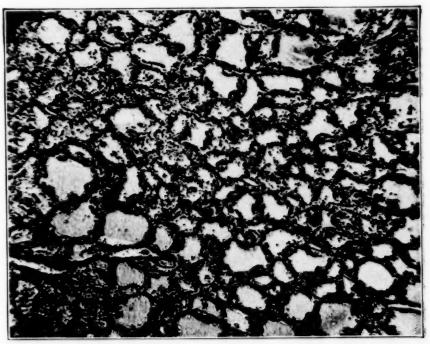

Fig. 2.—The thyroid gland of a dog dying from empyema several weeks after the experimental production of lung abscess. The acinose cells are no longer cuboidal but are columnar, and some exfoliation may be seen. There are papillary ingrowths into the acini, many of which contain little or no colloid. This picture can scarcely be differentiated from that seen in the toxic goiter of adults (exophthalmic type).

* Read before the Clinical Surgical Society at St. Louis, Nov. 4, 1927.
* From the Department of Surgery, Washington University Medical School, and the Barnes Hospital.

1. Baumann: Ueber das normale Vorkommen des Jods in Thierkorper, Ztschr. f. physiol. Chem. **21**: 318, 481; **22**: 1, 1895.
2. Oswald, A.: Ueber die chemische Beschaffenheit und die Function der Schilddrüse, Strasbourg, 1900; Princip. Biochem. Centralbl. **1**, 1902-1903.

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The increase in size seems best accounted for by a hyperplasia. One might expect edema to be an important factor, but, as a matter of fact, very little evidence of edema is seen in the microscopic sections.

The microscopic picture of the glands removed from the animals with infections varies. There are certain characteristics, however, which are quite constant. A desquamation of the acinose cells into the alveoli with disintegration of the protoplasm is a constant observation. The cells remaining intact lose their cuboidal shape and become columnar in type. In many cases there is a heaping of acinose cells with papillary ingrowths into the alveoli, in a manner which can scarcely be differentiated from an exophthalmic goiter as found in human beings (fig. 2). Loss of colloid is also universal. This occurs in certain areas of the section and resembles the distribution of colloid as seen in a thyroid gland of a patient with a toxic goiter to whom iodine has been given. In the latter case, however, the colloid is reappearing instead of disappearing.

Fig. 3.—Section taken from thyroid gland of dog dying from peritonitis three days after ligation of the appendix. The normal architecture of the gland has been lost by the enormous amount of desquamation and cell destruction. The remnants of several acini may be seen. Although no colloid can be demonstrated, it is an interesting fact that many glands showing this structure often contain from 50 to 60 per cent as much iodine as the normal gland. This suggests a chemical combination of the iodine within the thyroid cells. The structure of the gland shown here is the one more commonly seen in dogs dying within a few days following severe infections.

In a series of thyroids removed at autopsy by Dr. S. M. Gray of the department of pathology, a large percentage were decidedly abnormal. These abnormal glands were usually encountered in patients who succumbed to infections. They revealed the pathologic changes, including desquamation, hyperplasia, loss of colloid and increased scar formation, which are seen in animals. The thyroid of one patient presented areas which were characteristic of early changes as seen in exophthalmic goiter, adenoma and thyroiditis.

For years it was thought that the causation of goiter, especially the endemic and epidemic type, was largely dependent on drinking water. Strong evidence is offered in support of this theory by the reports of numerous epidemics in the nineteenth century in the European armies or villages located in mountainous regions, and by the authentic reports of an immediate control of these epidemics by a change in the water supply. A lack of iodine in the food or drinking water had previously been assigned as a cause of such epidemics. However, McCarrison [3] cites an instance, with other data, in which the cause and control of epidemic goiter did not have any relation to the amount of iodine in the drinking water.

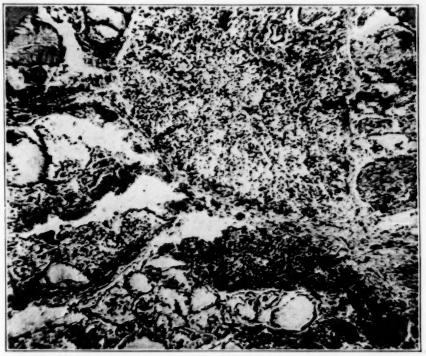

Fig. 4.—Scarring was produced in this gland by the injection of an irritant (trypsin) into the superior thyroid artery. The animal died three weeks later from pneumonia. What is apparently an early adenoma may be seen, the result of hyperplasia following previous fibrosis. Lymphocytic infiltration is also present.

The discovery by Oswald [4] that the thyroid gland of a patient with exophthalmic goiter contains less iodine per gram of weight than does the normal gland is pointed evidence that there is a relation between iodine

Fig. 5.—The thyroid gland of an adult patient who died following a severe pharyngeal infection and septicemia. The acini are small and, excepting a few areas, are entirely devoid of colloid. Marked hyperplasia is present and a moderate amount of desquamation. This stage of hyperplasia and scarring can readily be produced in animals by infections and toxemias.

metabolism and toxic goiter. Marine and Lenhart [5] asserted that there was a constant relationship between

3. McCarrison, Robert: An Experiment in Goiter Prevention, Brit. M. J. **1**: 94 (Jan. 15) 1927.
4. Oswald, A.: Die Chemie und Physiologie des Kropfes, Virchows Arch. f. path. Anat. **169**: 444, 1902.
5. Marine, David; and Lenhart, C. H.: Relation of Iodine to Structure of Thyroid Gland in the Sheep, Dog, Hog and Ox, Arch. Int. Med. **3**: 66 (Feb.) 1909; Effects of the Administering or the Withholding of Iodine Containing Compounds in Normal, Colloid or Actively Hyperplastic (Parenchymatous) Thyroids in Dogs, ibid. **4**: 253 (Sept.) 1909; The Pathological Anatomy of the Human Thyroid Gland, ibid. **7**: 506 (April) 1911; Bull. Johns Hopkins Hosp. **22**: 1911.

the iodine content and the structure of the gland. The fact, however, that the total amount of iodine in a normal gland and in one from a patient suffering from exophthalmic goiter is about equal suggests that there are other factors, probably more important than iodine deficiency, in the production of goiter.

An inconstant swelling of the neck during the course of certain infectious diseases, including measles, scarlet fever and typhoid, has been recognized for years and emphasized by Roger and Garnier.[6] They have also noted, as has been reported by McCarrison,[7] that pathologic changes in the thyroid glands of animals may follow certain infections and toxemias. McCarrison[8] has recently observed that the histologic structure of a normal thyroid gland (of rats) can be altered by feeding unbalanced diets.

Further work, including basal metabolism studies and iodine feeding, is being carried on by us.

SUMMARY

All the data presented in this article point strongly to the fact that the thyroid gland takes an active part in the mechanisms combating diseases of the body in general. Especially does this seem true in acute infections and fevers. This active relation is not surprising when one considers the part played by the thyroid in the metabolism of the body. Lesions in the thyroid have been produced by infections and toxic means which strongly resemble the microscopic picture seen in exophthalmic goiter and toxic adenoma in man. Since the iodine content of the gland is reduced so markedly during acute infectious processes experimentally, it seems logical to assume that administration of iodine to patients with infectious processes, especially of the acute type, might be beneficial. We are not yet prepared to state what the action of iodine in such cases might be, and we therefore are in no position either to advocate it or to state what might be considered safe dosages in such conditions.

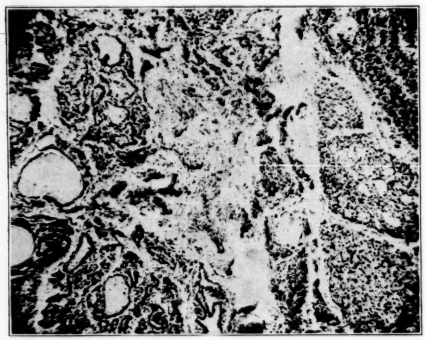

Fig. 6.—The thyroid of a patient who died at the age of 100 years with hypertension and bronchopneumonia. Early stages of three different types of pathologic change, including that seen in toxic adenoma, thyroiditis and exophthalmic goiter, are discernible.

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6. Roger, H., and Garnier, M.: Le glande thyroide dans les maladies infectieuses, Presse méd. **1**: 181, 1899; Infection thyroïdienne expérimentale, Compt. rend. Soc. de biol. **50**: 889, 1898; Action du bacille typhique sur la glande thyroide, ibid., pp. 891-893; Recherches expérimentales sur les infections thyroïdiennes, Presse méd. **2**: 93-97, 1900.

7. McCarrison, Robert: The Thyroid Gland, London, 1917.

8. McCarrison, Robert: Experimental Production of New Type of Goiter Unrelated in Its Origin to Iodine, Lancet **1**: 916 (April 30) 1927.

HOW MUCH FRESH AIR DOES THE SCHOOL CHILD NEED?

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Although credit is generally given to von Pettenkofer [1] for having been the first to point out the fallacy of Lavoisier's theory that the increase in the concentration of carbon dioxide was the cause of the discomfort that one experienced in overcrowded and overheated rooms, it was not until the classic experiments of Hermans [2] that the relative unimportance of changes in the chemical composition of the atmosphere as a result of human occupancy was clearly demonstrated and that emphasis was placed on the importance of the physical factors temperature and humidity.

It was not until another twenty years had passed and Flügge and his co-workers at Breslau [3] had published in 1905 the results of their exhaustive studies that this concept of the relative values of the physical and chemical condition of the air was generally accepted even by the closest students of ventilation. Since that date, however, the soundness of this thesis has been demonstrated time and again by groups of workers in England, on the continent, and in the United States.

It is only natural that the earlier belief should have influenced both state and local regulations concerning ventilation in this country, where the principle of the public school system and the rapid increase in population have demanded such a vast program of school construction.

During the twenty years since Flügge's epoch making experiments, the practice of mechanical ventilation of school buildings has continued to reflect the influence of the belief in the harmfulness of carbon dioxide, or of "crowd poisons," of which carbon dioxide was accepted as the index.

The fact that an adult normally exhales approximately six-tenths cubic foot of carbon dioxide an hour, and the supposition that concentrations of this gas greater than 6 parts in 10,000—twice that normally found in outdoor atmosphere (0.0003)—would produce harmful results, gave rise to the following formula for the quantity of fresh air required for each person per hour:

$$X \text{ (cu. ft.)} = \frac{0.6}{0.0006 - 0.0003} = 2{,}000$$

In the practice of school ventilation, it was assumed that the pupil did not require as much fresh air as did an adult, and the result has been that mechanical systems of ventilation have generally been designed to furnish 30 cubic feet of air for each child per minute. A few state laws require slightly less than this amount for pupils in the lower grades, but most regulations do not differentiate between the quantity to be provided for kindergarten pupils and those in high school. Varying the quantity of air according to the temperature does not appear to have been suggested in ventilation legislation.

1. Von Pettenkofer, Max: Ueber die Respiration, Ann. d. Chem. u. Pharm., supp. 2, **1**, 1862-1863.

2. Hermans, J. T. F.: Ueber die vermeintliche Ausathmung organischer Substanzen durch den Menschen, Arch. f. Hyg. **1**: 1, 1883.

3. Flügge, C.: Ueber Luftverunreinigung, Warmestauung und Luftung in geschlossenen Haumen, Ztschr. f. Hyg. **49**: 363, 1905. Heymann, B.: Ueber den Einfluss wieder eingeathmeter Expirationsluft auf die Kohlensaure-Abgabe, ibid. **49**: 388, 1905. Paul, L.: Die Wirkungen der Luft bewohnter Raume, ibid. **49**: 405, 1905. Erckientz, W.: Das verhalten Krenker gegenüber verunreinibter Wohnungsluft, ibid. **49**: 433, 1905.

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In the light of the general acceptance of the importance of the physical qualities of air and the rejection of earlier chemical theories, a rational approach to the establishment of scientific standards of air change in classrooms should include consideration of the heat output of the pupils and of the temperature of the incoming air.

One of the functions of any system of heating is to heat air entering the room by infiltration and to compensate for heat losses through walls and ceilings and around doors and windows. In other words, the attempt is made to establish conditions that would exist if the rooms were a calorimeter—that is, to establish equilibrium between the heat lost and that supplied.

It remains, then, for any system of school ventilation to provide sufficient fresh air at such temperature as will offset the effective heat output of the pupils and maintain the temperature of the classroom within a narrow range of the point found to be the most healthful for the pupils. Adult comfort is by no means a reliable index of this condition. The heat output of a child is greater per unit of body surface than is that of the adult. Consequently, the optimal temperature for the child is lower than that at which the majority of teachers, particularly under average conditions of modern feminine dress, will feel comfortable. As between the comfort of the teacher and the health of a room full of pupils, there is but one choice: the room temperature must be kept down and the teacher must dress accordingly.

I have given in table 1 the approximate number of cubic feet of air at the outdoor temperature—from 0 to 60 F.—at 5 degree intervals that will be raised to the desired indoor temperature—from 65 to 70 F.—in intervals of 1 degree F. by 1 British thermal unit. The figures in this table have been obtained by dividing 50 (approximately the number of cubic feet of air raised 1 degree F. by 1 British thermal unit) by the difference between the various indoor and outdoor temperatures.

TABLE 1.—*Number of Cubic Feet of Air at Outdoor Temperature Raised to Indoor Temperature by One British Thermal Unit* *

Outdoor Temperature, Degrees Fahrenheit	Indoor Temperature, Degrees Fahrenheit					
	65	66	67	68	69	70
60	10.0	8.3	7.1	6.3	5.5	5.0
55	5.0	4.5	4.2	3.8	3.6	3.3
50	3.3	3.1	2.9	2.8	2.6	2.5
45	2.5	2.4	2.3	2.2	2.1	2.0
40	2.0	1.9	1.9	1.8	1.7	1.7
35	1.7	1.6	1.6	1.5	1.5	1.4
30	1.4	1.4	1.4	1.3	1.3	1.3
25	1.3	1.2	1.2	1.2	1.1	1.1
20	1.1	1.1	1.1	1.0	1.0	1.0
15	1.0	1.0	1.0	0.9	0.9	0.9
10	0.9	0.9	0.9	0.9	0.8	0.8
5	0.8	0.8	0.8	0.8	0.8	0.8
0	0.8	0.8	0.7	0.7	0.7	0.7

* Based on the approximation that one British thermal unit will heat 50 cubic feet of air 1 degree F. (Carrier, W. H.: Fan Engineering, Buffalo Forge Company, Buffalo, 1925, pp. 14-15).

In table 2 will be found the relative heat output at different ages from 7 to 16 years. These figures, which were presented in the Report of the New York State Commission on Ventilation, represent the total heat output and are, as was pointed out in an earlier article,[4] approximately 25 per cent in excess of the body heat loss that enters our problem of ventilation. The body heat losses due to evaporation from the skin and in the respiratory system, although a real loss as far as the person is concerned, neither add a burden to the ventilation system nor relieve the heating plant, such heat having disappeared in the form of latent heat of vaporization.

To determine the amount of fresh air for each pupil per minute required to maintain approximate temperature equilibrium, the number of cubic feet of air raised from the known outdoor temperature to the desired indoor temperature by 1 British thermal unit from table 1 is multiplied by 75 per cent of the total heat output of the average pupil in the room under consideration from table 2.

TABLE 2.—*Total Heat Output at Different Ages* *

Grade	Age, Years	Average Weight, Pounds	Total Heat Output	
			B. T. U. per Hour	One Person per Minute
1	7	40	292	4.9
2	8	46	318	5.3
3	9	53	345	5.8
4	10	60	373	6.2
5	11	67	397	6.6
6	12	75	401	6.7
7	13	81	409	6.8
8	14	98	488	8.1
9	15	104	500	8.3
10	16	112	488	8.1
Young adult		149	464	7.7

* Ventilation, Report of the New York State Commission on Ventilation, New York, E. P. Dutton & Co., 1923, p. 261.

As an illustration, suppose the outdoor temperature is 40 F. and the desired indoor temperature is not to exceed 66 F. in a room of first grade pupils. In the indoor temperature column 66 in table 1, the factor opposite the outdoor temperature 40 is 1.9 cubic feet. From table 2, the total heat output of a first grade child is given as 4.9 British thermal units per minute. Reducing this amount by 25 per cent to allow for the heat loss by evaporation gives the formula:

$$X \text{ (cu. ft. per pupil per minute)} = 1.9 \times 0.75 \times 4.9 = 7.0$$

As another example, consider the needs of a 15 year old pupil when the outdoor temperature is 20 F. and the desired indoor temperature is 68 F. Opposite outdoor temperature 20 in the 68 indoor temperature column of table 1, the amount of air at 20 F. raised to 68 F. by 1 British thermal unit is 1 cubic foot.

Table 2 gives the total heat output for a pupil of 15 years as 8.3 British thermal units per minute. Allowing for heat loss by evaporation, and applying the formula given above, we have:

$$X = 1.0 \times 0.75 \times 8.3 = 6.25 \text{ cubic feet for each pupil per minute}$$

Under these conditions, the calculated concentrations of carbon dioxide would be 17 and 19 parts in 10,000, respectively, if it is assumed that children of these ages produce as much carbon dioxide as does an adult.

In each of these cases, it appears that if our modern conception of the desiderata in school ventilation is correct, the practice of always supplying 30 cubic feet of air (fresh or recirculated) for each child per minute appears not only unnecessary but wasteful.

Reference to the tables will show that only when the outdoor temperature reaches 55 F. will 30 cubic feet of fresh air per minute be required to keep the temperature of a room occupied by 15 year old pupils from exceeding 66 F. First grade pupils require 30 cubic feet of outdoor air at 60 to keep the room temperature from exceeding 66 F. It is well known that the fans

4. Duffield, T. J.: A Preliminary Note on Radiant Body Heat and the School Ventilation Problem, School Board Journal **75**: 55 (July) 1927.

of mechanical ventilating systems in schools are usually shut down long before the outdoor temperatures average 55 and 60 F.

If these basic data and calculations are correct, it remains for the heating and ventilating engineer to provide, first, the heating plant that will just compensate for the structural heat losses over a wide range of outdoor temperatures, and, secondly, a means of introducing quantities of air varying with the average ages of the pupils and the outdoor temperatures in a manner that will not produce drafts.

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ADVANTAGES OF BROMINIZED OIL IN BRONCHOGRAPHY IN TUBERCULOUS PATIENTS *

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The practical value of introducing opaque substances into the tracheobronchial tree as an aid to the roentgenray diagnosis of obscure pulmonary lesions has become firmly established. Following the pioneer publications of Sicard and Forestier [1] and Sargent and Cottenot,[2] bronchography was soon enthusiastically taken up by French, German, Danish, Russian and American observers. The opaque medium commonly employed consists of a vegetable oil firmly combined with about 40 per cent by weight of iodine. As a general rule, iodized oil is well tolerated by the pulmonary tissues, and only occasionally have deleterious results been reported. In the diagnosis of bronchiectasis, the most brilliant results have been obtained. The size, shape and distribution of the cavities are readily delineated, and bronchiectasis, especially in children, has been found to be more frequent than is commonly supposed. Bronchial fistulas and empyema cavities are thoroughly delineated by injection, and in several of our cases the empyema has healed in an unexpected and almost astounding manner, after the introduction of the oil.[3]

The multiform lesions of pulmonary tuberculosis, which are not always visible on the ordinary roentgenogram, seemed to offer a fertile field for bronchography. However, from the beginning, chiefly on theoretical grounds, considerable doubt was expressed as to the advisability of injecting the tuberculous lung with a combination so rich in iodine. It was feared that the iodine might retard fibrosis and increase congestion and the danger of hemorrhage. Thus, Armand-Delille and Moncrieff [4] as well as Gelston [5] did not consider it prudent to practice injections in tuberculous patients systematically, because of the chance of causing an increase in congestion as a result of the influence of the iodine. Fleischner [6] stated that iodized oil could not be introduced into the tuberculous lung with impunity. Pritchard [7] and his co-workers refrained from injecting tuberculous patients.

In our experience and in that of others, iodism seldom occurs after the endobronchial injection of the oil. Iodism is usually of very mild degree but is apt to be more marked and more severe if some of the oil enters the stomach (Landau,[8] Luger,[9] Frisch [10] and others).

Edema of the larynx due to the iodine has been observed in a few instances.[11] It may occur after the oil has been introduced through a puncture of the cricothyroid membrane with escape of some of the oil into the tissues of the neck, as in a case reported by Forestier.[12] Recently, Belote [13] reported a case of iododermia following the injection of iodized oil.

Forestier [12] evidently considered iodized oil free from danger, and on his visit to this country in 1924 injected the oil in numerous cases of pulmonary tuberculosis. He regarded fever and recent hemorrhage as contraindications.

Among thoracic surgeons Archibald,[14] in his first publication, considered the injection of iodized oil of great value in delineating the obscure tuberculous lesions in the diseased as well as in the better lung prior to such operations as extrapleural thoracoplasty; he also found it very helpful as a control after operation.

Jacobæus [15] also advocated its use and found it of especial value in determining the presence or absence of bronchioles within pleural adhesions. When the bronchioles extended into the adhesions, he refrained from severing such adhesions through his pleuroscope for fear of infecting the pleural cavity.

Ballon,[16] as well as one of us,[17] injected the oil into a considerable number of tuberculous patients and not infrequently demonstrated lesions such as unrecognized cavities, bronchiectasis secondary to tuberculous lesions, reservoir bronchi and the like, which previously had not been delineated on the ordinary roentgenogram. Hedblom [18] occasionally injected iodized oil as a diagnostic aid prior to operations undertaken for the relief of pulmonary tuberculosis, but he did not consider it necessary in every case.

In his second publication, Archibald,[19] with larger experience, urged caution in cases of tuberculosis. Lichtwitz,[20] in 1926, reported a single case of rather

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* Read before the Clinical Congress of the American College of Surgeons at Detroit, Oct. 5, 1927, and the Cincinnati Academy of Medicine, Dec. 5, 1927.

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4. Armand-Delille, P. F., and Moncrieff, A.: The Use of Lipiodol in the Diagnosis of Bronchiectasis, Brit. M. J. **2**: 7-8 (July 5) 1924.

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6. Fleischner, in discussion, Wien. klin. Wchnschr., 1925, number 15.

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8. Landau, W.: Die intratracheal Verwendung von Iodipin zur Kontrastdarstellung und Roentgendiagnostik der Atmungsorgane, Klin. Wchnschr. **4**: 1861 (Sept. 24) 1925.

9. Luger, A.: Meeting of the Gesellschaft für innere Medizin und Kinderheilkunde in Vienna, Dec. 4, 1924; abstr. Wien. klin. Wchnschr. **38**: 157 (Jan. 29) 1925.

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13. Belote, G. H.: Iododermia from Iodized Oil, J. A. M. A. **89**: 882 (Sept. 10) 1927.

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15. Jacobæus, H. C.: On the Cauterization of Apex Adhesions and the Importance of Bronchography in Pneumothorax Treatment of Tuberculosis, Acta. Tuberc. Scandinav. **1**: 62, 1925.

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20. Lichtwitz, O.: Lipiodol Injury in Tuberculosis, Wien. klin. Wchnschr. **39**: 133 (Jan. 28) 1926.

latent phthisis in which, after the injection of 4 cc. of iodized oil, the disease process became very active, presumably as a result of the injection.

In a later publication by one of us,[21] the late effects of the injection in thirteen cases of pulmonary tuberculosis were checked up. One patient with tuberculosis of four years' standing succumbed to a pulmonary hemorrhage four weeks after a second injection, given at his own request, because of his improvement after the first injection. A bed-ridden patient with a history bacilli were observed in the sputum for the first time after injection. The remaining cases did not show any permanent sequelae that could be attributed to the injected oil. From this series of cases, the following conclusion was drawn:

> Experience indicates that iodized oil may at times activate tuberculous lesions. Therefore, in tuberculosis it should be used with caution, and when some special information is to be gained, for example, such information as is desired before thoracic surgery is undertaken.

Effects of Endobronchial Injection of Brominized Oil

Case and Name	Pulmonary Diagnosis	Sex* and Age	Previous Roentgen-Ray Diagnosis	Part Affected	Previous Hemorrhage	Amount of Tubercle Bacilli	Reaction: Temperature Before	Reaction: Pulse	Reaction: Temperature	Reaction: Respiration	Reaction: Amount of Sputum	Reaction: Cough	Reaction: Hemorrhage	Reaction: Dyspnea	Reaction: Tubercle Bacilli After	Six Weeks Follow-Up
1 J. B.	Tuberculosis	♂ 44	Tuberculosis with cavity	Right lung	None	1	101	Incr.	102	Labored	13¾ 1 cup	Incr.	None	Slight	Neg.	Slightly worse
2 M. B.	Tuberculosis	♀ 24	Dense infiltration	Right lung	Yes	¼	99.6	Incr.	100-2	Same	9½ ¾ cup	Yes	None	None	Pos.	Unchanged
3 A. D.	Tuberculosis and syphilis	♂ 37	Dense infiltration	Right lung	None	1	Neg.	99	Normal	Normal	Normal	13¾ No	None	None	Neg.	Improved
4 A. J.	Tuberculosis	♂ 49	Infiltration, right apex; cavity left	Right lung	Yes	½	Neg.	99.4	Incr.	100	Incr.	12¾ Improved	None	None	Pos.	Improved
5 J. M.	Tuberculosis, urinary	♂ 51	Dense infiltration	Right lung	None	1	Pos.	101	Incr.	101	Incr.	14¼ No	None	None	Pos.	Unchanged
6 A. P.	Tuberculosis, laryngeal	♀ 37	Cavity in left upper lobe	Right lung	None	1	Pos.	100	No increase	100	No increase	19¼ No	None	None	Neg.	Improved
7 Mrs. A. R.	Tuberculosis, laryngitis and diabetes	♀ 39	Dense infiltration both upper lobes	Right lung	None	½	Neg.	102	Incr.	102	Incr.	20¾ No	None	None	Pos. then Neg.	Unchanged
8 B. K.	Tuberculosis	♂ 27	Dense infiltration throughout	Right lung	None	Slight	Neg.	Normal	Normal	100	Slight increase	Incr.	Yes	None	None	Pos.	Unchanged
9 Mrs. A. B.	Tuberculosis	♀ 39	Dense infiltration, upper lobes	Right lung	Slight	½	Pos.	102	Incr.	102	.....	Incr.	No	None	None	Pos.	Unchanged
10 J. W.	Tuberculosis	♂ 41	Dense infiltration, right; cavity, left	Right lung	Severe	½	Pos.	99.4	Incr.	Incr., then normal	.....	14	Yes	None	None	Pos.	Improved
11 A. R.	Tuberculosis, pulmonary; arrested	♂ 37	Bronchiectasis, moderate degree	Left base	April 19, 1927	3 oz. in 24 hrs.	Neg.	98.6	84	98	20	3 oz. in 24 hrs.	Moderate	None	None	Neg.	
12 H. J. R.	Tuberculosis, Pulm. M. A. "A"	♂ 31	Inflammatory changes in left lower, right middle lobes	Right middle and left lower lobes	Bloody sputum, 1927	1 oz. in 24 hrs.	Pos.	98	84	98.6	20	Oil only	Slight	None	None	Neg.	
13 F. J. K.	Tuberculosis, Pulm. F. A. "A"; Hodgkin's disease	♂ 26	Tuberculosis, pulmonary	Both upper lobes and mediastinal glands	None	2 cc. sputum 24 hrs.	Pos.	98	120	99.2	22	Unchanged	Unchanged	None	None	Pos.	
14 H. L. M.	Tuberculosis, pulmonary, arrested; bronchiectasis	♂ 29	Tuberculosis arrested; bronchiectasis	Both left lobes	One in 1924	10 cc. sputum in 24 hrs.	Neg.	98.6	100	98	20	10 cc. in 24 hrs.	No cough	None	None	Neg.	
15 C. K.	Observed for pulmonary tuberculosis	♂ 41	Lung abscess, right	Right upper lobes	None	Negligible	Neg.	98.6	80 to 85	98.6	20	Negligible	No cough	None	None	Neg.	
16 S. T.	Observed for pulmonary tuberculosis	♂ 39	Moderate degree, bron. bil.	Both lower lobes	None	2 to 6 oz. in 24 hrs.	Neg.	98	90	98.6	20	2 oz. in 24 hrs.	No cough	None	None	Neg.	
17 E. C.	Observed for pulmonary tuberculosis	♂ 32	Bronchiectasis	Right lower lobe	None	2 oz. in 24 hrs.	Neg.	98	86	98.6	20	2 oz. in 24 hrs.	No cough	None	None	Neg.	
18 E. V.	Tuberculosis, Pulm. M. A. "A"	♂ 34	Tuberculosis, infiltration right apex; pleurisy effusion	Right upper lobe	None	Scant	Pos.	Normal	Normal	Normal	Normal	Oil only	Unchanged	None	None	Neg.	
19 C. R.	Tuberculosis, incipient syphilis	♀ 43	Fibroid tuberculosis	Right lung	None	.....	Neg.	99	5 beats	99	.....	Unchanged	Diminished	None	None	Neg.	Condition good
20 D. F.	Tuberculosis, advanced	♀ 42	Tuberculous cavity	Right lung	Severe 1 week before injection	.....	Pos. 1923; Neg. 1927	99	No increase	100	....	....	Incr.	Moderate	None	Pos.	Improved after 4 weeks
21 C. O.	Tuberculosis, active	♀ 50	Cavity; left bronchiectasis(?)	Lung	None	.....	Neg.	99	Normal	98	No increase	...	No increase	None	None	Not examined	

* In this column, ♂ indicates male; ♀, female. The abbreviations M. A. "A." indicate moderately advanced, arrested; F. A. "A." far advanced, arrested; "Obs." observation.

of an acute extensive pulmonary involvement of uncertain origin and nature showed tubercle bacilli for the first time after the iodized oil had been introduced. The patient died ten weeks later, but it is doubtful whether the injection hastened the end. In another case of incipient tuberculosis there was slight hemoptysis after the injection, but there has since been a complete clinical recovery. In two other cases, tubercle

21. Iglauer (footnote 17, second reference).

Quite recently Archibald and Brown[22] reported "three instances of complications occurring after the use of iodized oil, one of which ended fatally, showing the potential danger of this method in cases of tuberculosis and infections of the upper respiratory tract."

22. Archibald, E. W., & Brown, A. L.: Danger of Introducing Iodized Oil into the Tracheobronchial System, J. A. M. A. **88:** 1310 (April 23) 1927.

Fiessinger and Lemaire [23] made interesting postmortem studies of the microscopic changes in the pleura and adjacent lung tissue in two cases of tuberculosis in which iodized oil had been injected into the pleural cavity. They found that cells filled with oil enter infiltrated areas. They state that it is possible that this oil absorption favors parenchymatous sclerosis but that this sclerosis is accompanied by a congestion more diffuse and much increased over that observed in ordinary pulmonary fibrosis. The iodized oil did not produce true fibrosis of the tuberculous lesions themselves, but only a neighboring sclerosis. These observations indicate that, in areas of active evolution, iodized oil may favor diffusion of the lesions.

Since some of the untoward effects in tuberculosis seemed to be due to the iodine, an attempt was soon made to find a substitute in the form of a brominized oil. Putnam's [24] experiments on animals indicated that "brominized oils are less irritating than similar iodine combinations" and that halogenated animal oils are "less irritating, more easily emulsified, and more quickly absorbed than the vegetable oils at present in use."

Dyroff [25] was the first to employ brominized oil extensively in clinical cases. He found that uterotubal injection of brominized oil was not followed by any irritation or reaction in the peritoneal cavity, as demonstrated at operation, and stated that brominized oil is entirely free from injurious properties.

In September, 1926, Rad [26] published an exhaustive and complete report on the endobronchial injection of a brominized oil in a series of nineteen cases of pulmonary tuberculosis.

Bromipin is a chemical combination of 33⅓ per cent bromine with sesame oil. It is straw colored, viscous oil, having a fatty odor, and is practically tasteless. It does not disintegrate at 212 F., and can be sterilized. Injected into the lung, it acts as a contrast substance, giving shadows somewhat less marked than those produced by iodized oil. Owing to its viscosity, it is necessary to warm the oil to about 104 F. before and during its injection.

In order to keep the oil at this temperature, Rad found it necessary to construct a special hot water bath surrounding the oil. (In our experience, as will be described later on, we were able to dispense with this somewhat cumbersome outfit.)

All of Rad's patients had a more or less active, in part, an open and slowly progressive tuberculosis of light or medium severity. In no case did he observe any deleterious effect on the existing lesions. He concluded that, owing to its freedom from toxic properties and the practical absence of irritating qualities, bromipin is far preferable to iodized oil.

PERSONAL EXPERIENCE WITH BROMIPIN

Following this report by Rad, some bromipin was obtained and each of us injected the oil in a series of cases of tuberculosis. Ten patients at the Lake County Tuberculosis Sanatorium (Hammond, Ind.), were injected with the substance by one of us (H. K.), and through the courtesy of Dr. R. W. C. Francis and his staff of the U. S. Veterans' Bureau Hospital at Maywood, Ill., injections were made in an additional eight cases. In addition, three cases at the Cincinnati General Hospital were provided through the cooperation of Dr. Alfred Friedlander. Eighteen of these twenty-two patients were diagnosed as having tuberculosis. The accompanying table gives the diagnosis in each case, showing the parts affected, and the condition before and after injection.

ANALYSIS OF TABLE

In this series there were eighteen cases in which pulmonary tuberculosis had been diagnosed, including fifteen advanced cases, one incipient case, and two arrested cases. There were three additional patients under hospital observation for tuberculosis. Each of the patients was injected with about 20 cc. of bromipin. Following the injection, a slight febrile reaction occurred in only one case (1). The respiration became labored in one case, and increased in four cases. Cough increased in only one case and improved in another. The amount of sputum (one cup, or 13¾ ounces) became increased in eight cases. The maximum increase occurred in case 6, in which there was almost three times the usual amount.

Hemoptysis occurred in one case (20), but this patient had had a severe hemorrhage about one week prior to the injection, which should have been deferred.

The first ten patients were kept under close observation for at least six weeks after the injection. In one of these, case 1, the condition became slightly worse and then improved. The condition in the other cases either remained unchanged or improved.

In general, it may be stated that permanent deleterious effects following the injection of the bronchi with the brominized oil were not noted, and that the patients bore the injections very well.

The results of these experiments coincide with the observations made by Rad [26] and indicate the advisability of employing brominized oil when bronchography is contemplated in tuberculous persons. As has been stated, the roentgenograms obtained with bromipin are not as dense as those with iodized oil, but this disadvantage is offset by the absence of irritating effects on the tissues.

TECHNIC

The injections in our patients were done by means of the intubation tube, described by one of us in previous publications.[17] The intubation tube is provided with two barrels or channels, one channel being for the introduction of the oil, and the second, or main, channel remaining open for breathing as in the ordinary O'Dwyer tube. To the oil channel a piece of rubber tubing about 6 inches long is attached. The larynx is first thoroughly cocainized (20 per cent solution). The tube is then inserted under the guidance of the laryngeal mirror. The rubber tube attached to the oil channel protrudes from the patient's mouth. After the intubation tube is in place, about 4 cc. of procaine hydrochloride (1 per cent) is injected through the tube into the tracheobronchial tree to obtund the cough reflex. The bromipin is warmed to 104 F., and is placed in a warm glass syringe which is surrounded by a piece of gauze saturated with hot water. The patient is then placed before the fluoroscope, and the warm oil is slowly injected, under visual control. When the patient is inclined behind the screen, the oil is directed by gravity into the diseased lung field. The diagnosis can frequently be made by the aid of the fluoroscope alone. Films are taken as soon after injection as possible.

23. Fiessinger, N., and Lemaire, A.: Lipiodol Injections as an Exploratory Procedure and in the Treatment of Tuberculous Pleurisy, Presse méd. **34**: 209 (Feb. 17) 1926.
24. Putnam, T. J.: Some Brominized Oils for Radiographic Use: Preliminary Report, J. A. M. A. **87**: 1102 (Oct. 2) 1926.
25. Dyroff, R.: "Contrastol," ein neuer Kontrast Mittel fur die Darstellung Engkalibrigen Hohlraume, Deutsche med. Wchnschr. **52**: 397 (March 5) 1926.
26. Rad, A.: Die Füllung d. Bronchialbaumes mit Iodölen und Bromipin, Wien. klin. Wchnschr. **39**: 1011-1015 (Sept. 2) 1926.

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SUMMARY

1. The injection of iodized oil into the tuberculous lung is occasionally followed by ill effects.

2. Some of these deleterious effects are in all probability due to the iodine, which increases congestion and may produce softening and activation of the lesion.

3. Brominized oils are less irritating than the corresponding iodized oils.

4. In our series of eighteen patients with pulmonary tuberculosis, injected with bromipin, permanent deleterious effects were not observed in any case, thus confirming the experience of Rad.[26]

5. Whenever bronchography is indicated in pulmonary tuberculosis, brominized oil (bromipin) should be employed.

6. The endobronchial injection of warmed bromipin can very satisfactorily be carried out by the intubation method combined with visual control by the roentgenoscope.

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DISEASE

A PSYSOMATIC REACTION *

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In the life of every physician there come times when he must wonder whether his usefulness, measured in terms of successful therapeutics, has in any degree matched the lofty ambitions which led him to the doors of a medical school. "To cure sometimes, alleviate often, comfort always" is doubtless, in any given epoch, the best we can ever hope to do. But it is well now and then to take stock of our accomplishments lest we become either complacent or arrogantly satisfied with what today, as well as at every past moment in our professional history, has been called modern medicine. We are always faced, of course, with the dangerous habit of clinging to the thing which works, a gesture proving that pragmatism is the breath and life of tradition. Like all other forms of human experience, medicine shares in the expression of this habit. During the past twenty-five years the remarkable achievements of successful mechanistic diagnosis and therapy in the field of internal medicine have naturally tended to limit our pragmatic attitude to the sphere which we comprehend as physical. Possibly, also, this philosophy, in the case of the internists at least, has had its effect in keeping wide the chasm which separates them from their brothers in psychiatry. The dependable traditions so suddenly and amazingly established by Pasteur, Emil Fisher, von Behring, Lister, Koch and Banting may have turned the physician's thought away from the teachings of Aristotle, Plato, Nietzsche, Janet, Freud and Coué or the aura at Lourdes. And so, for the internist, the habit of clinging too eagerly to mechanistic tradition may constitute a danger which works against enterprise. Such an outcome would bring great misfortune to clinical medicine, an art which will always offer the fascinating lure of high adventure.

Doubtless, through the welter of symptoms and suffering, every physician from time to time speculates on the ultimate causes of disease. The remarks that follow express some of the thoughts on this subject which have arisen in the course of my work in the study of the human constitution and its relationship to disease.

I think that all will agree that the first concern of any living creature is to survive in its peculiar environment. So difficult a task is this, however, that the most beautifully concerted effort of each cell in every tissue is required for its accomplishment. Only through a unified, total exertion can the organism react successfully to those external influences which possess particular destructive power for it. The simplest menacing situations demanding protective measures are those developed in direct conflict with gross natural forces, such as conflagrations, earthquakes, or other animals. Then there are those less obvious but equivalent dangers of a more intimate nature produced by bacteria, chemical substances and emotional stimuli which cannot be met by consciously directed offensive or defensive gestures of arms, legs and body. Consequently, the ways in which an animal saves itself are many and various. But in the last analysis they all represent some form of fight or flight. It would appear, therefore, that, except perhaps in the case of chemical and bacterial invaders, the advancing or retreating maneuvers depend on muscular contraction. Yet it may be that even chemical and immunologic processes are associated with muscular effort. The augmentation of intestinal peristalsis, for example, which doubtless retards the absorption of toxic substances, and the offensive suffusion of infected tissue with increased blood volume illustrate the protective use of muscle uncontrolled by conscious thought. Furthermore, the progress through the body of those vital fluids bearing immune substances to the relief of intoxicated tissues depends on the contraction of heart and blood vessels. All these processes, clearly unresponsive to commands of the thinking brain, express in no uncertain terms the united action of the living entity. This perfectly coordinated interplay of different tissues is accomplished through the physical agency of the sympathetic nervous system and the imponderable forces of the emotional life. It is for this reason that man cannot be looked on segmentally as having a soma or body department on the one hand, and a psyche or spiritual-mental-nervous department on the other. He is, in fact, a psysome, or mind-body, and all his reactions to environment are psysomatic. In the scale of evolution it is impossible to point to the level at which animal forms may be said to have developed beyond the stage in which their protoplasmic entity represented pure soma, if indeed it ever did. Such a determination would require a clear definition of the meaning of the word psyche. For our purposes it might well be used to include the widest expressions of nervous, mental and emotional phenomena. In the ascent to man, the psysomatous organisms would vary as to the proportional amounts of psyche and soma which composed them. But in order fully to understand them and their several diseases, each form would have to be studied and dealt with as a complete entity. This attitude is the one which leads natural historians to investigate the instincts, emotions and behavior of living creatures as well as their physical and chemical attributes. There have been inspiring figures in the history of clinical medicine who held this view. Hippocrates has been referred to as a physician who thought like a naturalist, and John Hunter has left a great monument to his perception that the human animal shares with all living forms the fundamental principle

* Read before the Rochester Academy of Medicine, Feb. 22, 1928.
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that the whole organism expresses the perfect interplay of all its parts. Indeed, he remarked of vegetables that "they have a degree of sympathy, for if a branch is cut off the whole plant suffers; and this much more in some than others. Therefore, gardeners say that such a tree cannot bear the knife."

In the case of animal organisms, especially those at the higher levels of evolution, the number and complexity of the parts is infinite and includes not only those elements which are clearly mechanistic but many which are spiritual and imponderable. So far as man is concerned, the latter are generally grouped under the heading of psychic forces. It is, however, not at all impossible that these also will finally be proved to be a part of the universal mechanism, expressing the operation of as yet undetected physicochemical processes. Indeed, the recent disclosures by Gurwitsch of quartz-passing vibrations flowing from a severed beet root point to an extension of mechanism in hitherto unsuspected fields. So far, however, the psychic phase of man cannot be dealt with by the precise agencies of physical and chemical method. It is still necessary to contemplate empirically his thinking and affective life, which is, indeed, cognate with his physical being. Naturally, in an epoch which has witnessed such astounding growth of mechanistic knowledge, the habit of doubting the value or existence of imponderables grows rapidly. When a substance or force can be weighed and measured, a satisfying sense of assurance follows. Yet imponderability merely signifies the quality of not being intellectually comprehended. From this standpoint, then, all environmental phenomena are imponderable to organisms of subcerebral or nonthinking varieties. Nevertheless, such forms succeed very well by "intuitive" or empiric means in making those adjustments which foster growth, preserve life and perpetuate species. Human forms, likewise, possess in common with these lower orders a most elaborate and sensitive equipment for the identical purpose of evaluation of environment and successful adjustment to it. Man strives, however, to draw all experience into the light of intellectual comprehension. And as by this process he is forever turning imponderables into ponderables, he becomes increasingly unwilling to admit the existence of the former. The obvious result of this situation is that he grows gradually skeptical of empiricism. There is, of course, a strange lack of logic to be found in this trend of man's thought; for, whether he will or no, the subcerebral machinery of the sympathetic nervous system and the endocrine glands, lying at the psychophysiologic border, will always move swiftly to solve a vital problem before an intellectual process can begin to formulate an explanation or direct a course of action. Consequently, the affective life, from whose intricate depths arises the intuitive faculty, is like the red ray which can penetrate fog and outer darkness; whereas the white light of intellect must utilize the slow and painstaking experimental method to accomplish the same end.

If we now move on from these more general animadversions to a consideration of detail, we shall find ourselves confronting the obvious fact that this psysomatous organism, man, is equipped with two quite different kinds of muscle tissue. One of these, the striated and voluntary, is innervated by the animal nervous system and, commanded by conscious thought, carries out the life of relation to environment. The other variety of muscle, smooth in character and untouched by imperious volition, is concerned with the inner life of existence and procreation. Failures in the life of relation result in the more obvious disasters, of which a broken leg might be given as an example. Thus, lesions resulting from faults in this field are usually, themselves, simple in character and likewise display a certain obviousness of causal mechanism. On the other hand, disease that arises within the sphere of the inner life of existence and procreation is often extremely complex; for the moving vital parts are related to the endocrines and innervated by the sympathetic nervous system. This elaborate apparatus, still incompletely known, stands at the psychophysiologic border. There it receives and transmutes imponderable emotional stimuli into physical and chemical functions When these are adequate to successful—that is, life-maintaining and growth-promoting—adjustment with environment, the organism is in a state of health. If, on the other hand, there is either faulty relationship between the emotional stimulus and its subsequent physiologic expression, or an expenditure of emotion, wasteful of energy because unnecessary in respect of the immediate situation, the individual passes rapidly into a state of disease. The etiologic factor, therefore, which the individual himself provides for every sort of ailment is a variable mosaic of psychic and physicochemical components in which the emphasis moves from one extreme where the somatic element is paramount to the opposite at which the psychic dominates the picture.

The practical outcome of this situation, so far as the modern clinician is concerned, is displayed daily in the medical wards of any general hospital. There, always, may be found two or three patients sufficiently ill to require treatment, yet whose unconvincing symptoms defy classification in the present mechanistic scheme of diagnosis. As a rule, at ward rounds, these cases are passed quickly over with a mumbled statement from the intern to his attending physician that the disorder is functional. This information has the apparent effect of relieving the internist of further responsibility. For, although the patient complains of somatic pain and disability, the suspicion of a psychic taint in the etiology removes him from the sphere of internal medicine to that of psychology if not psychiatry. The experience is common not only to all hospitals but likewise in the practice of physicians everywhere. It illustrates, usually as an unenviable commentary on modern medicine, the unfortunate results of that cleavage between mind and body, already referred to, which has been so vigorously attacked in this country by the late Dr. Thomas W. Salmon and in England by Sir Charles Sherrington and F. G. Crookshank.

Let us take now for discussion three ubiquitous and well defined types of hospital patients in illustration of the shifting emphasis on soma and psyche in that total psysomatic reaction which we call disease. A broken leg is the simplest disturbance of this nature in which the somatic preponderance at first sight appears to be complete. But there is, of course, a large, though variable, psychic component in the total disability of the individual. Suppose, for example, that the fractured femur was part of the person of a successful banker. It is not difficult to apprehend that this man's state of mind would contain elements of annoyance and a certain pleasurable flavor derived from the genial sympathy of his friends, whose attitude is "Hard luck old man, good thing, it wasn't worse." But if the accident has occurred to a professional acrobat or dancer, the factor of anxiety enters at once to render

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the total disability of the individual far greater. The fear moment likewise varies not only with the occupation but also in regard to the extent of the patient's general or special information about fractures. Thus, many persons who might be aware of the possibility of secondary infection would be more terrified than those who were ignorant of this danger. Should the patient be a physician, however, the fear component might well rise considerably from the knowledge of the possible occurrence of a fatal fat embolus. Furthermore, this variable psychic factor in the fracture case may be modified by the conditions under which the accident occurred. The humiliating effect of an injury resulting from disobedience, clumsiness or stupidity must clearly arouse feelings of guilt with the attendant fear which profoundly influences the total psysomatic response, whereas the eulogy and popular acclaim showered on the person whose fracture was gained through some successfully heroic effort will produce a spiritual elation that completely changes the total reaction of the organism.

To illustrate the situation in which the psychic and somatic components of the total psysomatic reaction are both so marked as to make it difficult to say which preponderates, the following case is offered:

T. G. D., a lawyer, aged 37, complained of attacks of violent gastric pain associated with vomiting and great prostration. The attacks developed at irregular intervals, and on several occasions had been so severe and prolonged, with the abdominal wall so rigid that surgeons had been on the point of operating. One curious feature of the attacks was that when the pain was over a ravenous hunger supervened. Associated in every instance with this hunger was a clearly defined craving for baked beans. Various diagnoses had been made in which gallstones and duodenal ulcer had been chiefly favored. But the history revealed that ingestion of food did not bear any chronological relationship to the pain. In the course of the interview, however, the patient casually mentioned the fact that the last attack had occurred on a morning two weeks before. He remembered the day quite definitely, he said, because the pain began a short time after his neighbor had come in to announce the death of his son from peritonitis. "And there's a funny thing," said the patient, with a little apologetic laugh, "I've always been frightened to death of peritonitis, but, of course, it hasn't anything to do with my trouble." This lead was at once followed, and the further remarkable fact was disclosed that the attack next before the last happened at the time of the death from peritonitis of the well known moving picture actor Rudolph Valentino. The patient admitted reading every word of the newspaper stories about this man's illness, and that his own symptoms had reached their maximum a few hours after the actor's death was reported. Further questioning brought out other curious facts in the patient's past experience. At the age of 10 he had listened with secret terror and dismay to the accounts of the agonizing death from peritonitis of an old family friend; indeed, he still remembered keenly the fear sensations associated with that experience. At an even earlier age, possibly 3 or 4, he himself had been the subject of a severe and prolonged intestinal colic which nearly caused his death. An interesting detail of his recovery from this illness, which had often been told him by his mother, was the enormous appetite he had at once developed, and that his first real meal had been made of baked beans.

Here, then, was a patient whose colic-like attacks, followed by hunger and a well defined craving for a specific food, were directly related to an emotional reaction set up by the prospect of an acute fatal peritonitis. Further to test this possible mechanism, as well as to disclose a possible ulcer, the patient was given the usual bismuth meal. Under the fluoroscope the gastric peristalsis was clearly visible beneath the radiologist's massaging hand. This stimulus was then interrupted, and after two or three minutes' rest the following words were whispered in the patient's ear: "Rudolph Valentino died of peritonitis." After a delay of a few seconds, clearly visible, active, almost violent increase in gastric peristalsis began to appear. Synchronously with these, the patient complained of rumbling feelings in his stomach. With the assurance, supported by the completed radiographic studies, that neither ulcer nor gallstones were present, and a growing insight into the mechanism of these attacks, the patient was greatly relieved. In addition to this psychologic procedure, however, tobacco was prohibited and he reduced the volume of his work activities. Under the influence of these three therapeutic maneuvers directed at both psyche and soma, he has gone ten months without an attack.

Finally, there is the situation in which the emphasis appears to be almost wholly on the psychic phase of the total psysomatic reaction. This form of disease is best illustrated by the simple neuroses, of which the following case is a fair example:

Mrs. M., aged 59, complained of fatigue, nervousness, some loss of weight, and especially of insomnia. This last symptom had bothered her off and on for thirty years. She had tried and worn out all the various hypnotic medicines and was on the point of resorting to morphine when she sought medical advice. The patient was thin but fairly well preserved; her face was deeply lined and gave evidence of strain, as did the furtive, hunted expression of the eyes. There were no signs of organic disease. When a clinical thermometer was produced to take her temperature, her eyes filled with tears and she showed other facial expressions of unhappiness. In response to the question "What are you thinking about that makes you unhappy?" she replied, "I'm thinking about my baby; I suppose that thermometer reminded me." Further discussion brought out the fact that thirty years before her youngest child had died of pneumonia after an illness of some fifteen days. During this period the mother, whose room was on the floor below that of the child, rested at intervals, as she put it, "with one eye and one ear open." At the slightest wail from the sick child she would get up quickly and go to the sickroom in her efforts to save its life.

In talking further about her insomnia, it developed that the patient's present bedroom was on the second floor at the rear of the house, overlooking the back yard. "The great difficulty is," she said, "that the stray cats keep me awake with their wailing at night." At this the query was put to her, "What does the wailing of cats at night remind you of?" She thought a moment in silence and then said with an expression of combined amazement and comprehension, "Why, it can't be possible that they remind me of the baby's wailing, can it, and that I've been wakeful all these years trying to keep that baby alive?"

After this interview two weeks passed, and the patient returned to report that she had been sleeping well. She had lost much of the furtive look and felt less tired.

With difficulties of this sort, many somatic reactions appear. Headache, fatigue, muscular pain and constipation are common enough in the anxiety neuroses. It is, indeed, often quite impossible to say which is cause and which effect. Are the somatic phenomena caused by the prolonged anxiety state, or does the latter initiate the former? For the purpose of this discussion, the answer to this question is immaterial. The obvious fact is that both phases of the individual are involved, so that while in the last instance the psychic predominates, the total disability is psysomatic. This principle has, of course, long been recognized by the psychiatrists, who have continually emphasized the great changes which take place in the physiologic processes of mentally sick patients. Indeed, it is only necessary to remember that in certain forms of insanity a definite correlation exists between loss and gain in weights and the rise and fall of mental symptoms.

It may be that the only difference between the mechanisms of the second and third cases is one of degree.

There is a good deal of evidence that this is so, particularly if one recognizes the truth of the observation that symptoms characteristic of almost any example of pathologic physiology may flow from a purely psychogenic origin. If broken bones and tissue lacerations are excepted, there are few, if any, diseases in whose etiologic plan the individual constitutional factor is not at least equal in importance to the environmental, or paramount to it. Accepting this situation, one is faced with the problem of evaluating the constitutional factor and then manipulating it affectively for the cure of the patient. Without attempting at this time a detailed review of the results of constitution study, it may be said in general that they have demonstrated two main attributes of any individual which directly determine his disease potentiality. In the first place there are the obvious hereditarial faults, well named "tissue defects" by Sir Archibald Garrod. These are responsible for such extraordinary phenomena, for example, as cystinurea, Gower's muscular dystrophy, and the remarkable sex linked recessive hemophilia. That there are likewise marked differences in familial immunity to infection is so well known as now to be common knowledge. Clearly the physician can do little to influence these fixed-in-the-protoplasm weaknesses. Their ultimate control is one of the objectives of eugenics.

The second aspect of the individual, on the other hand, is that which includes his affective emotional reaction pattern and its various relationships at the psychophysiologic border. Whether or not this emotional equipment is also an inherited value, or one determined by experience, is a question which for the moment can be left for discussion to the followers of Freud and Jung and Watson. For the physician, however, it is the factor of supreme importance, because it serves the basic instincts of self preservation and perpetuation. Furthermore, the affective emotional reaction pattern can be effectively dealt with, for it is, like molten glass, ductile and pliant, and governed by equally rigid laws. But, like molten glass, it must be handled with the skill which comes from the recognition of its delicacy and experience with its potentialities. One false touch at the wrong moment and it is shattered. "I do not know what he means by psychotherapeutic treatment," said an adult patient with pylorospasm the other day to a friend, referring to his new physician. "There's nothing the matter with my mind." The patient was quite right, his intellect was good; but he, like the rest of the general public, had been badly educated by the medical profession. He had learned to expect physical, material, mechanistic treatment for an ill which to him was obviously of the body machine. None of the well trained modern physicians whom he had consulted had led him to realize that he, like all other human beings, possessed an affective emotional equipment which dominated physiologic function, untouched by rational thinking, and usually beneath the level of conscious awareness.

Even if all other emotions are neglected, important though they may be, the study of fear alone offers the internist amazing opportunities for increasing his usefulness. In the first place no patient consults a physician without a lurking fear in his heart. Thus inevitably the physician, though he is a resort for help and strength, is at first the symbol of that which the patient fears—disease and death. Consequently, it is not strange that many a man in whose consciousness arises the realization of ill health first carries his anxious suspicions to a friend. There is a terrifying deterrent in the prospect of consulting him whose business is to ferret out disease. And so it is no small ordeal which a patient faces on entering a hospital ward. For there is a prompt onslaught of interns, laboratory technicians and nurses. All the awesome array of modern medical machinery moves inexorably on the sick and inwardly terrified stranger on his first visit to the hospital. There can be only one effect of this experience—an increase of his fear. Often, as a result of this, the patient develops an obdurate, antagonistic attitude. He raises barriers of defense within the very walls which offer him his best chance for health and life. The tired and exasperated nurses and interns find themselves arrayed against him. Too often the patient "leaves against advice" and signs a "release." It may be illuminating in this connection to report that the records of one hospital showed that there were 2,050 discharges during a period of six months. Of these ninety-seven, or 41 per cent, left the hospital against advice or by signing releases. Seventy-three, or 80 per cent, of this group either left spontaneously because they were annoyed and frightened and dissatisfied, or were ordered out by the interns as uncooperative. Now, if one assumes that part of a physician's task is to manage his patient adroitly, it is clear that every patient who leaves the hospital disgruntled or under duress is evidence of the physician's or the nurses' failure to cope successfully with that patient's problem and personality. It represents bungling work and rests on neglect of the psychic factor in the patient's total psysomatic reaction. From the standpoint, too, of economical hospital management, this illustration has some bearing. The average stay in the hospital for each of these ninety-four patients was ten days. At $3 a day per patient, this meant an expenditure of nearly $3,000 which was entirely wasted. But from the standpoint of scientific medicine, the question also arises as to the value of certain chemical and physiologic tests taken on patients during a period of emotional unrest, whether suppressed or openly exhibited. In order to offset this adverse influence, we have recently been attempting a new technic in some of our wards. Unless an immediate therapeutic procedure is demanded the patient is made comfortable in bed, and for from thirty-six to forty-eight hours no tests are made. During this time the attending physician, interns and nurses make every effort to gain the patient's confidence and help him acclimate himself to the ward. He is surprised to find himself an individual among friends. Very often at the end of this initiation period he begins to ask when some of the "stunts" are going to be done to him. The effect of this plan has been to produce a definite elevation of the general morale of the ward. Furthermore, there is good reason to believe that the results of the tests for disturbed physiologic function taken under these conditions are more dependable and significant. Consequently, instead of wasting the hospital's and patient's time there is a saving of both.

In view of these considerations, then, it would appear that from the standpoint of sound psychology and cold logic the modern physician is in a fair way to lose much of the advantage which his improving intellectual equipment should give him. There is here a strange paradox which seems to say that the more the physician becomes the skilful ferret of disease, the more terrifying grows the symbolism of his presence for the patient. Only as the healer is he the friend of man. We shall do well, therefore, to inscribe above

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the portals of our medical schools the words of Plato: "The office of the physician extends equally to the purification of mind and body. To neglect the one is to expose the other to evident peril. It is not only the body that by its sound constitution strengthens the soul, but the well regulated soul by its authoritative power maintains the body in perfect health."

33 East Sixty-Eighth Street.

LATE RESULTS FROM TRYPARSAMIDE THERAPY IN NEUROSYPHILIS

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The results obtained in the treatment of neurosyphilis with tryparsamide and mercury are permanent for at least five or six years. I have reviewed the cases treated by the Wisconsin group in 1920 and 1921. It was possible to obtain reliable information as to the present condition of 317 patients. Of these, 152 were noted recovered at that time. Four of these patients have since died and fourteen have returned to state hospitals. One hundred and thirty-four patients have remained permanently restored to physical health and mental efficiency for periods of from five to six years. This represents 87 per cent in whom the recovery noted after treatment has continued without relapse during from five to six years.

It is interesting to note that a number of patients regarded as unimproved during the first two years of our effort with tryparsamide, and so reported in previous articles, later, with further tryparsamide therapy, showed sufficient improvement to be discharged from the state hospital. Also, that very many patients reported as failures because of persistence of mental symptoms have continued alive and somewhat less of a problem from the standpoint of behavior in the hospital. These are patients in whom the paretic process seems to have been halted. Their life has been prolonged beyond the usual span of untreated general paralysis. These patients are somewhat improved mentally but not restored. While these cases can hardly be regarded as a very desirable result, nevertheless they offer further evidence of the therapeutic efficiency of tryparsamide and mercury so far as the activity of the disease is concerned.

With both success and failure at hand for analysis, I sought to discover what clinical and serologic data might be identified with either result and what, if any, special therapeutic procedure or management was associated with either outcome.

From the clinical standpoint, the following facts are significant. The recovered patients average approximately 7 years younger than the unimproved. The duration of infection, that is, the lapse of time between chancre and clinical manifestations, is less in the recoveries than in the others. From a psychiatric point of view the successful cases are generally noted as presenting far more evident abnormality in the nature of excitement, expansion, agitation, depression, restlessness, delusions and manic-like behavior than the unsuccessful. Among the latter cases, dementia is more frequently observed in the clinical record, although it must be noted that some very striking exceptions are found. Patients who appeared demented before treatment were subsequently restored to normal mental function by continued treatment.

Another rather constant difference is the record of a gain in body weight. In the successfully treated cases there was a gain in weight that ranged from 5 to 40 pounds (2.3 to 18 Kg.), the average being 7½ pounds (3.4 Kg.). The unsuccessful cases showed an average gain of less than 2 pounds (0.9 Kg.). This can be attributed, in part, to the drug and possibly in part to better behavior incidental to improvement and recovery with the subsequent better food habit. In patients who failed to improve mentally, although many made an initial gain in weight, it was found that such gain was not generally maintained.

From a neurologic standpoint there is no symptom complex incidental to either result. Taboparalysis is found much more frequently among the unsuccessful cases. Other than this, the usual physical signs of pupillary anomaly, tremor, speech defect and hyperreflexia are found with equal frequency in the successful and unsuccessful results.

The clinical material represented in this review comprises, largely, general paralysis, taboparalysis, asymptomatic paralysis, meningovascular syphilis and, to a less extent, tabes. In all these cases serologic changes are very constant both in the blood and in the cerebrospinal fluid. We have been very much interested in the serology of these conditions. Previous to treatment several observations are made over a period of two or three weeks in order to establish a base line. This serves as one of the guides as to the efficacy of our therapeutic efforts, when compared with later serologic results. As a consequence, our records offer an opportunity to compare the serologic syndrome found previous to treatment in both the successfully treated cases and those that failed to respond clinically. Such a comparison reveals the relative frequency of initial active serologic observations in the successfully concluded cases. This is represented by a cell count ranging from 40 to 250; frankly positive globulin tests and a Wassermann test obtained with relatively small amounts of cerebrospinal fluid, excepting in the clinical group of meningovascular syphilis, in which the Wassermann test frequently is positive only with from 0.5 to 1 cc. of fluid. A stronger positive reaction with the fluid is relatively frequent in the successful cases.

A positive colloidal gold test is equally frequent with either outcome. The so-called typical paretic curve is very frequent in the clinical cases of general paralysis that are included in the recoveries. It is to be noted that a change in the type of curve early in the course of treatment has significance. In the recoveries reported, 87 per cent show a change quite early in the course of treatment. A paretic type of curve will change and resemble that more frequently found in meningovascular syphilis. A meningovascular type of curve will become somewhat flattened out. Such favorable changes in the direction of a negative response are far less frequent in the therapeutic failures.

From the clinical and serologic standpoint the following facts brought out in this review are significant:

There is no definite clinical or serologic symptom complex constantly associated with either good or poor prognosis so far as results from tryparsamide and mercury treatment are concerned. Evidences of disease activity in the nature of marked mental symptoms and well developed serologic observations seemed to offer a better prognosis. The early response to therapy in the nature of improvement in the spinal fluid serologic

observations and increase in body weight are favorable indications.

A review was made of the treatment used in both the successful and the unsuccessful cases. Excepting our early efforts when 5 Gm. doses were used, I find that quite generally the dosage of tryparsamide is 3 Gm. As our work continued we departed more and more from any routine procedure. Individual case adjustment apparently became more and more a clinical problem as our experience lengthened, so that the range of dosage from 1 to 5 Gm. is frequently found but not limited to the recoveries. It is also evident that we employed considerable latitude as to the interval between administration of tryparsamide. While usually a week elapsed between administrations, a number of patients were given tryparsamide twice a week and in some instances once in three weeks. Such individual adjustments were made because of eye complications, age, sex, body weight, serologic observations and clinical activity. In general, we strongly advise against tryparsamide in less than 1 Gm. dosage. If for any of these reasons a relatively small amount of drug is indicated, we believe that lengthening the interval from one to two or even three weeks between administrations is better practice than repeated small doses of less than 1 Gm. In other words, one must guard against subtherapeutic dosage because in man and animal this apparently aggravates the disease by general dissemination in the animal, and in man intensification of symptoms.

We also used potassium iodide as an additional remedy in some cases. More recently, that is, during the last two years, in a large number of cases not included in this report treatment with malarial inoculation has been given either previously or subsequent to tryparsamide therapy.

The only significance in therapeutic management brought out by this review is the highly individual character of the therapeutic attack. This applies to the total amount of tryparsamide used in single cases. This ranged from 48 Gm. to more than 1,500 Gm. for an individual. Likewise, the duration of therapeutic effort extended over variable periods from six months to almost two years. The practice of interrupted treatment, that is, giving seven or eight injections at intervals of a week and followed by therapeutic rest of from one to two months is found with almost equal frequency in comparing the successfully treated cases and the failures. Some of our patients were treated continuously for six months and one case for over nineteen months. Incidentally, it will be of interest, as bearing on the lack of local irritation from tryparsamide, that one patient received more than 160 Gm. in one vein during a period of four months.

While this review fails to disclose any particular therapeutic procedure associated with success, it is noted that the total amount of drug used is considerably less on the average in the unsuccessful group. This is accounted for on the basis of failure to improve and a discontinuance of effort because of this failure. However, in the light of further experience, I now believe that such a decision on such evidence is unwise since we have encountered a number of cases that are relatively slow in their response in which, after a persistence of effort, an ultimate improvement and recovery sometimes takes place. It is further concluded that if tryparsamide and mercury are selected as therapeutic agents for a case this treatment should be used in sufficient amount and over a period of time approximating six months before being discarded. A total amount of approximately 150 Gm., depending somewhat on age, body weight and tolerance, should be the minimum effort if, after clinical analysis, tryparsamide is selected as the most promising remedy.

Mercuric salicylate in dosage of from one-half to 1½ grains (0.03 to 0.1 Gm.) intramuscularly once or twice a week during the period of tryparsamide therapy appears equally frequent in the favorable or the unfavorable cases; likewise, the use of other arsenicals such as neoarsphenamine, sulpharsphenamine and silver arsphenamine. These drugs were used intermittently for special reasons in certain cases, but I fail to find that such additional therapy gave any better results.

It is not within the province of this paper to discuss the pathology of neurosyphilis or attempt to account for the success or failure of treatment on that basis. It is our opinion that the clinical syndrome recognized as general paralysis may result from lesions of the brain cortex that vary over a considerable range both from the standpoint of extent of involvement and from that of the nature of the pathologic changes. The work of Dunlap,[1] and others demonstrates this point beyond question. The response to therapeutic effort is further evidence of a variable pathologic condition. Malarial inoculation, tryparsamide and mercury, nonspecific proteins and, less frequently, other arsenicals certainly are effective in approximately 50 per cent of clinical general paralysis. Assuming that meningovascular syphilis is an antecedent to general paralysis, the far better prognosis from treatment in the condition bears upon the contention that one probably encounters cases in the process of transition and that such cases are especially amenable to treatment. It seems to us that inflammatory exudate may affect the nutrition of nerve elements and, as a consequence, impair or entirely inhibit function; that it is possible to have sufficient blood supply to maintain cell life but insufficient to support functional activity. Furthermore, the granulation tissue of perivascular exudation is resolvable. Following such resolution, nutrition of the cell is resumed and, unless completely destroyed, function recurs.

Based on our experience and review of results after the lapse of from five to six years, it is urged that every case of syphilis of the central nervous system be treated energetically. Tryparsamide and mercury offer a convenient and remarkably effective treatment. It is necessary to select cases in making a choice of tryparsamide, other arsenicals, malarial inoculation or other therapy of proved value. In the instance of tryparsamide, an extensive trial should be made before the drug is discarded.

There are now many patients who have enjoyed health and efficiency for periods of from five to six years as the result of treatment with tryparsamide and mercury. These are largely cases that would have otherwise, without doubt, passed on to hopeless chronicity and death.

As a result of this review, it is my conviction that absolute differentiation by either clinical or serologic evidence between amenable and resistive cases cannot be made before a therapeutic trial. Early improvement is very encouraging and argues for a persistence of the effort instituted. Lastly, a point that cannot be too much emphasized is the practice of regarding every case as an individual problem in which all the evidence, clinical and serologic, must be weighed before planning the therapeutic attack.

1. Dunlap, C. B.: Am. J. Insanity **71**: 249 (Oct.) 1914.

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POLYCYTHEMIA VERA

REPORT OF A CASE*

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Since 1918, when Eppinger and Kloss first used phenylhydrazine hydrochloride clinically in the treatment of polycythemia vera, several reports of cases so treated have been presented in the literature with varying conclusions drawn therefrom. I have not found any report, however, covering as long a period of continuous treatment as in the case which has been under my care since May, 1924. For the first six months this patient was treated with roentgen-ray exposures over the long bones and desiccated spleen by mouth, and for the remaining two and one-half years, and continuing at the present time, phenylhydrazine hydrochloride has been given.

In the treatment of this case I have had in mind various points regarding the use of this drug brought out by other men in reporting their cases, particularly (1) the dosage necessary to keep the cell count at or sufficiently near the normal level; (2) whether or not the rise of the white cell count precedes the fall of the red cell count and, if so, whether this increase in leukocytosis may be used as an index to the administration of the drug; (3) whether the fall in the red cell count is proportional to the rise in the white cell count; (4) whether the patient acquires any tolerance to the drug, and (5) the possibility of the development of cirrhosis of the liver from the use of the drug.

Owen [1] has suggested an heredofamilial tendency in the disease, since in his own case both parents, one brother and one sister were affected; Engelking, whom he cites, found it present in three successive generations. There has not been any evidence of such a tendency in my case. The family history of the patient shows that the father died at 40 years of age of heart trouble; that the mother died at 69 of Hodgkin's disease; that one brother and two sisters are living and well, and that one sister has attacks of epilepsy. Nor has there been any evidence of a relationship between endocrine deficiency and polycythemia, as has been suggested.

REPORT OF CASE

History.—A woman, aged 55, first came to me in May, 1924, complaining of (1) dusky color over the face and body which she had first noticed from four to six years earlier; (2) general weakness for the past three or four months; (3) attacks of gas and indigestion for the past three years, rather acute at times, and becoming more frequent during the last few months, and (4) the presence of a mass in the left side of the abdomen which she had first noticed four weeks before when she had pressed her hand against the abdomen during an attack of gas and indigestion.

In 1915, Dr. Frank W. Lynch of San Francisco performed a supravaginal hysterectomy and bilateral salpingo-oophorectomy, together with a suspension of the prolapsed rectum; no mention was made at that time of any mass in the abdomen. In 1918, Dr. W. H. Kiger of Los Angeles made a general examination, and at this time, also, no mention was made of a mass in the abdomen, nor was the blood count abnormal. Aside from the operation in 1915, the past history of the patient was essentially negative except for two miscarriages at six weeks and three weeks, respectively, for no apparent reason. This might suggest the possibility of a syphilitic infection, which some writers have brought forward as a cause for polycythemia, but the Wassermann reaction in this case has been negative.

It is probable, therefore, that the patient's symptoms first appeared in 1919, since her subjective symptoms dated back about six years.

Physical Examination.—The patient was rather tall and spare, and appeared fairly well nourished. The skin over the face and entire body was of a decided dusky hue with small petechial hemorrhages; the lips were cyanotic. The mucous membranes of the mouth, nose and throat were very red and congested. The teeth were in poor condition. The thyroid was not palpable. The chest was normal with normal breath sounds and without change in percussion. The heart was not enlarged; there was no valvular lesion and the quality of the sounds was good; the systolic pressure was 140, the diastolic, 80. The veins over the entire body were engorged. The right side of the abdomen gave the appearance of being caved in, while the left side was very full with a large smooth tumor of uniform consistency with a sharp edge and notch, extending from the rib border to the crest of the ilium. Marked tenderness was present over this mass and over the epigastrium; pelvic and rectal examinations were negative. The patellar, biceps and triceps reflexes were hyperactive but equal; all other reflexes were normal. The roentgen-ray study of the gastro-intestinal and urinary tracts did not show anything of importance except a large mass on the left side which was interpreted as an enlarged spleen.

Dr. S. A. Durr of San Diego, who examined the patient's eyes, reported that the fundus of the right eye was somewhat darker than normal; refraction was about plus 1.00 and the disk was round, presenting a deep, nasally inclined physiologic cup. The ratio of the diameter of the veins to that of the arteries was 2 to 1. The vessels were darker than usual, particularly the veins. Both groups appeared slightly dilated and somewhat tortuous. The central light streak was more marked than usual, the caliber of both arteries and veins showing a typical "crossing phenomenon," i. e., the veins were indented and dilated distally. One cilioretinal vein was present. Above and nasally from the disk was a group of translucent "drusen." The macula did not show any pathologic changes. The conditions in the left eye were essentially the same.

The urinalysis showed an alkaline reaction, a specific gravity of 1.020, faint traces of urorosein and phenol, and a trace of albumin.

The blood count at the time of this first examination showed: red corpuscles, 8,856,000; hemoglobin, 115 per cent; white corpuscles, 8,700; and a differential count of: lymphocytes, 11 per cent; large mononuclears, 8 per cent; transitionals, 0 per cent; neutrophils, 78 per cent; eosinophils, 4 per cent, and basophils, 0 per cent.

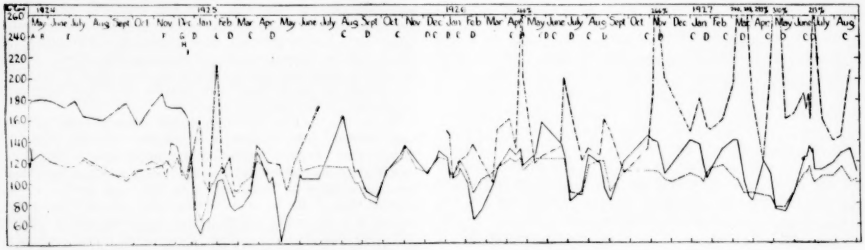
Treatment and Course.—The patient was put on a treatment consisting of splenic extract, 3 grains (0.2 Gm.), four times a day, and benzene, 8 minims (0.5 cc.), three times a day, and asked to report in ten days; at this time the prescription was doubled and she was advised to take desiccated spleen. This did not give any improvement. One month later, roentgen-ray treatment of the long bones was started, the administration of the desiccated spleen being continued. Some improvement was noted subjectively, although the fall in the red blood count was slight. At the time the roentgen-ray treatments were started, a cystitis developed which cleared up under instillation of a solution of mild silver protein. At this time, four abscessed teeth were extracted, with a moderate amount of bleeding. The roentgen-ray treatments and desiccated spleen medication were continued, and in September the patient reported that she felt much better; her appetite had improved and there was not so much gastric disturbance; she was not weak and did not have any shortness of breath. Her face was still quite blue, but the spleen was much smaller and was not tender. As the accompanying chart shows, however, the red blood count was still very high. By the middle of November, the spleen had decreased somewhat in size and had lost all tenderness.

At this time, Nov. 14, 1924, the patient was given phenylhydrazine hydrochloride, 0.2 Gm. daily. Four days later she returned in good condition, showing some change in color and no toxic symptoms. The systolic blood pressure was 120,

* From the Rees-Stealy Clinic.

1. Owen, Trevor: A Case of Polycythemia Vera with Special Reference to Familial Features and Treatment with Phenylhydrazine, Bull. Johns Hopkins Hosp. **35**: 258-262 (Aug.) 1924.

the diastolic, 84. The spleen was freely movable and not tender. The erythrocyte count had fallen in these four days from 9,300,000 to 8,750,000. The patient continued to feel well and to be in good condition without any apparent change in color. December 10, the phenylhydrazine dosage was reduced to one capsule (0.1 Gm.) a day; December 14, the dosage was raised again to two capsules a day, and on December 20 it was increased to three capsules. The effect was very marked. December 30, the patient came in looking very pale and feeling very weak; she reported that the stools had been black and tarry for several days. The chart shows the abrupt drop in the red cell count from 8,000,000 to 3,150,000 and finally to 2,650,000, and in the hemoglobin from 107 per cent to 65 and finally to 55 per cent. Medication with phenylhydrazine hydrochloride was discontinued and gradually the patient regained her strength; her color became pinker, and the red blood count started on its upward path again. Beginning Feb. 9, 1925, she was again given one capsule (0.1 Gm.) of phenylhydrazine a day, and with intermittent periods of rest this has been the



The relation of the erythrocyte and leukocyte counts to each other and to the hemoglobin, and, from Dec. 17, 1924, to the periods of administration of the drug: solid line, red cells; line of dots and dashes, white cells; broken line, hemoglobin; 100 per cent, or normal, is taken as meaning 4,500,000 red cells, 85 per cent hemoglobin and 7,500 white cells: *A*, splenic extract and benzene; *B*, desiccated spleen; *C*, commenced, 0.1 Gm. daily; *D*, discontinued; *E*, irradiation of long bones; *F*, phenylhydrazine, 0.2 Gm.; *G*, phenylhydrazine, 0.1 Gm.; *H*, phenylhydrazine, 0.2 Gm.; *I*, phenylhydrazine, 0.3 Gm.

medication to the present time. During this time all general symptoms have disappeared and unless the count is allowed to rise too high, the patient feels very well and is able to attend to all her household duties. She states that she does not feel any ill effects from the drug unless she takes it over too long a period and has a sudden drop in the red count; in fact, the patient feels quite equal to guiding her own treatment, as she notes some dizziness, weakness and exhaustion when she has taken a sufficient amount of the drug.

COMMENT

A total of 29.8 Gm. of phenylhydrazine was administered over this period, an average of 2.1 Gm. being given during each period of medication. Brown and Giffin [2] found that destruction of the red blood cells occurred following the ingestion of 0.2 Gm. of phenylhydrazine. In several instances in my case, blood counts were not taken for from seven to fifteen days after the drug was started, so that it is impossible to tell how long it may have been before the actual destruction of the red cells began; other instances show that six, nine and at one time eleven days elapsed before the fall in the red count began, making the amount of phenylhydrazine taken before any effect on the red blood corpuscles was observed 0.6, 0.9 and 1.1 Gm., respectively. Intervals between the periods of administration averaged one and one-half months.

Although the white cell count was not made continuously, the chart shows that, after a period of medication was started, the rise in the white count either preceded the fall in the red count or was much more abrupt at the beginning of its rise than was the red count in its fall; and I agree with Owen [3] that it may be possible to use this increase in leukocytosis as an index to the fall in the red count. During the last period of medication, daily blood counts were taken and this precedence in the rise of the white count over the fall in the red count which has been indicated during the two and one-half years of treatment has been confirmed. The chart in this case does not show, however, as Owen found, that the fall in the red count is proportional to the rise in the leukocyte count.

This patient has not acquired any tolerance to the drug such as Leopold [4] suggested might occur and as Gaschenburg [5] found to be the case, so that it has not been necessary to increase the dosage. This fact is demonstrated during the last period of medication, which was used somewhat as a test period after the two and one-half years of treatment; the same amount of the drug produced the same reaction as had been shown in all other periods. Furthermore, there has not been any evidence of a deleterious effect on the liver. Although it may take years for a cirrhosis of the liver to develop, some evidence of such a complication would be noted after two and one-half years of treatment with the drug; and since, without treatment, far more serious complications of the disease would have developed, I believe that this factor may be ignored.

The leukocyte count in this case has gradually become persistently higher, as the accompanying chart shows. Whether or not this factor will constitute a contraindication to the long continued use of phenylhydrazine, I cannot say, but it is a phase of the case which I am watching closely.

The chart shows the relationship of the erythrocyte and leukocyte counts to each other and to the hemoglobin, and, from Dec. 17, 1924, to the periods of administration of the drug. A count of 4,500,000 erythrocytes, 7,500 leukocytes, and 85 per cent hemoglobin, which we have found to be the average in this clinic, has been taken as normal.

CONCLUSIONS

The data presented in connection with the case reported seem to show that:

1. The erythrocyte count may be kept near normal limits by the administration of 2.1 Gm. of phenyl-

2. Brown, G. E., and Giffin, H. Z.: Treatment of Polycythemia Vera (Erythremia) with Phenylhydrazine, Arch. Int. Med. **38**: 321 345 (Sept.) 1926.

3. Owen, Trevor: Treatment of Erythremia with Phenylhydrazine, J. A. M. A. **85**: 2027-2032 (Dec. 26) 1925.

4. Leopold, S. S.: Treatment of Polycythemia Vera with Phenylhydrazine, M. Clin. N. Amer. **10**: 229-239 (July) 1926.

5. Gaschenburg, cited by Owen (footnote 3).

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hydrazine hydrochloride during each period of medication, this amount being divided into doses of 0.1 Gm. a day; and that, following the ingestion of 2.1 Gm. of phenylhydrazine, the drug may be safely discontinued for one and one-half months.

2. It may be possible to use the increase in leukocytosis as an index in administering the drug since the rise in the white cell count precedes the fall in the red cell count, although the decrease in the red cell count is not proportional to the increase in the white cell count.

3. The patient did not acquire any tolerance to the drug.

4. Phenylhydrazine hydrochloride administered in the dosage used in the case reported apparently does not have any deleterious effect on the liver.

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Clinical Notes, Suggestions and New Instruments

A NEW RADIUM APPLICATOR FOR CARCINOMA OF THE CERVIX

HAROLD SWANBERG, M.D., QUINCY, ILL.

The adaptation of the French methods of administering radium in carcinoma of the cervix by an increasing number of American radium therapeutists is quite evident. The French school, led by Regaud of Paris (the associate of Mme. Curie), uses comparatively small amounts of radium over a long period of time, from heavily filtered, multiple centers.[1] This is accomplished by three sets of applicators—one that fits in the uterine canal, one that fits against the cervix, and another, called a "colpostat," that is fitted into the lateral vaginal fornices. I have attempted to simplify this technic by combining the first two mentioned applicators; thereby using two instead of three. This has been accomplished by a modification of the John G. Clark cervical applicator used in treating carcinoma of the cervix.[2] The Clark applicator is a T shaped applicator composed of 1 mm. of brass throughout, and covered with 0.5 mm. of aluminum. With this device, radium is introduced into the cervical canal and also placed against the vaginal portion of the cervix. The length of the cervical portion is about 3 cm.

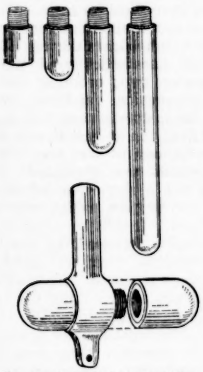

Fig. 1.—Individual parts of the new applicator.

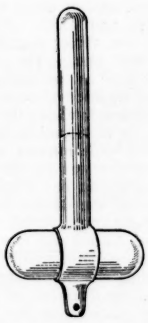

Fig. 2.—Applicator assembled for use in a uterus of average length.

The applicator that I have devised consists of 22 karat gold of special alloy throughout. The walls of the uterine portion are 1.75 mm. of gold covered with 0.5 mm. of aluminum, and the cervical portion 3.5 mm. of gold covered with 1 mm. of aluminum. The uterine portion consists of a number of graduated sections, so that an applicator can be assembled for uterine canal measurements of from 4.5 to 10.5 cm. in length. The gold used has an approximate density of 18.4, providing thickness to the uterine portion, which gives a filtration equivalent to 1.5 mm. of pure platinum. The outside diameter of the uterine portion is 8 mm., which can be readily covered with one or more thicknesses of Para rubber. For the average size uterus, three radium needles can easily be placed in tandem in the uterine portion and one or more needles in the vaginal portion.

That the applicator may be properly constructed to conform to each individual case (insuring the success of the Regaud technic), the length of the uterine canal should be first determined by means of a sound. The applicator can then be readily introduced by uterine dressing forceps or special forceps, a slot in the vaginal portion being provided for this purpose.

An ideal manner of using the applicator in treating cervical cancer is its use in conjunction with the colpostat devised by Kaplan.[3] In this manner, six radioactive centers are supplied, all heavily filtered, and the technic, so successfully carried out by Regaud, can readily be administered.

The advantages of this applicator are that:

1. It provides a single instrument for irradiating the entire uterine canal as well as the vaginal portion of the cervix.

2. It is flexible, so that uterine canals of various lengths may be irradiated. (The Regaud technic necessitates irradiating the entire uterine canal.)

3. It offers heavy filtration, which is twice as great in the vagina as in the uterine canal, thus protecting the sensitive vaginal mucosa (another requisite of the Regaud technic).

731 Hampshire Street.

PULMONARY TUBERCULOSIS ASSOCIATED WITH BRONCHIAL OBSTRUCTION *

CARL J. BUCHER, M.D., PHILADELPHIA

Rupture of a tuberculous lymph node into a bronchus, while not an uncommon lesion, rarely simulates the condition found when a foreign body lodges in a bronchus. The following case illustrates such an occurrence.

REPORT OF CASE

A child, aged 3 years, was admitted to the service of Dr. Chevalier Jackson with a diagnosis of bronchial obstruction. The essential features of the clinical history were a rapid onset of the disease, a duration of the illness for ten months, marked loss of weight, an unproductive cough, wheezing respiration without dyspnea, an irregular septic fever, slight pain in the right side of the chest, and night sweats.

Before admission the child had been under the care of several physicians; and diagnoses of influenza, malaria, diphtheria and bronchial obstruction were made. Several times tuberculosis was considered and four Pirquet tests were performed, but all were negative. A roentgen-ray study of the chest which revealed changes not unlike those seen in atelectasis, together with the wheezing respiration and the physical signs, prompted the diagnosis of bronchial obstruction.

The physical signs on admission to the Jefferson Hospital were limitation of motion in the right lower half of the chest, with a dull percussion note and indefinite bronchial breathing posteriorly and in the axilla corresponding to this area. Râles were not present.

The laboratory observations were unimportant. A roentgenogram showed some displacement of the heart and trachea to the right of the midline and a homogeneous, dense, tri-

1. Lenz, Maurice: Radiotherapy of Cancer of the Cervix at the Radium Institute, Paris, France, Am. J. Roentgenol. **17**: 335-342 (March) 1927.
2. Clark, J. G., and Norris, C. C.: Radium in Gynecology, Philadelphia, J. B. Lippincott Company, 1927, pp. 182, 193.
3. Kaplan, I. L.: A New Type Applicator for Use in the Treatment of Malignancy of the Cervix, Am. J. Roentgenol. **17**: 360-361 (March) 1927.

* From the Department of Pathology, Jefferson Medical College and Hospital.

angular shadow extending from the sixth dorsal vertebra to the right costophrenic angle. Within this area there was a branching shadow. The left lung was overdistended.

Diagnostic bronchoscopy revealed obstruction of the orifices of the middle lobe and right lower lobe bronchi by inflammatory tissue. No foreign body was found.

The events in the subsequent history were of little importance until the patient developed symptoms of meningitis characterized by twitching of the extremities and, later, convulsions. Spinal fluid was withdrawn; it was under slightly increased pressure and was bloody. The fluid was injected into a guinea-pig, which later developed tuberculosis. The meningitis persisted for three days and the child died. A Pirquet test performed shortly before death was negative.

At autopsy the mediastinal lymph nodes were enlarged and gray, and some of them were soft and contained caseous material. The left lung and upper lobe of the right lung with the exception of the apex were voluminous, crepitant throughout and showed a moderate degree of emphysema. Their surfaces and cut surfaces were studded with discrete gray miliary nodules from 1 to 2 mm. in diameter. At the apex of the right lung there was a firm, grayish white, circumscribed nodule about 0.5 cm. in diameter with central caseation. The middle and lower lobes of the right lung were purplish red, firm, contracted and airless. Their bronchi showed that pathologic change on which the confusion in the clinical picture hinged. At the beginning of the middle lobe bronchus there was a small perforation in its wall through which caseous material exuded. The perforation was about 3 mm. in diameter. In the first portion of the lower lobe bronchus there was a constriction due to scarring of the bronchial wall. Below the constriction the bronchus showed a fusiform, bronchiectatic dilatation. In the angle formed by the two air passages there were a few enlarged lymph nodes, firmly adherent to each other by fibrous tissue. The smaller bronchi showed many bronchiectatic dilatations and were filled with yellow caseous and thick, tenacious, mucopurulent material. The cut surfaces of the middle and lower lobes of the right lung were red, firm and carnified, and here and there showed yellow, circumscribed, caseated areas.

The meninges, especially those covering the base of the brain, and the liver, spleen and kidneys were studded with small discrete, gray, translucent miliary nodules. In the lower ileum and cecum, there were a number of small, shallow ulcers from 0.5 to 1 cm. in diameter which proved to be tuberculous in nature. The mesenteric and retroperitoneal lymph nodes were enlarged and many of them showed central caseation.

Histologic study of lung tissue from the right lower and middle lobes of the lung showed thickening of the pleura, extensive areas of caseation in the lung parenchyma, overproduction of tuberculous granulation tissue, and collapse of the neighboring alveoli. Between these areas there were a few distorted alveoli lined by epithelium more nearly approximating that seen in glandular structures than that lining normal lung alveoli. Other areas showed extensive hemorrhage into the lung tissue. Some of the smaller bronchi were distended; their epithelium was denuded, and their lumens contained an exudate composed of caseous material, polymorphonuclear leukocytes and round cells.

Sections taken from the left lung showed many miliary tubercles and a moderate degree of emphysematous dilatation of the alveoli. Sections from the meninges, spleen, liver and kidneys showed an extensive miliary tuberculosis of these organs. The mediastinal, peritoneal and retroperitoneal lymph nodes were the seat of a caseous adenitis. Sections taken from the ulcers of the ileum and cecum proved these to be tuberculous in nature. The tubercle bacillus was recovered from material taken from the lung.

COMMENT

Two factors in this case seem worthy of special consideration, namely, the long duration of the illness and the negative Pirquet tests. From the postmortem evidence it seems apparent that the discharge into the bronchus of caseous material from the necrotic lymph nodes produced precisely the same effect as any other type of foreign body lodged in the air way. This portion of the picture overshadowed the more important underlying tuberculosis, which was demonstrated only at autopsy.

The repeated negative Pirquet reactions are difficult to explain when one considers that five tests were performed by five competent observers with different samples of tuberculin. Unquestionably, the tests served only to obscure the diagnosis in this case. Like many other tests used in clinical medicine, repeated negative Pirquet tests do not necessarily rule out an extensive active tuberculosis.

1216 Walnut Street.

Special Article

FATALITIES FROM LOCAL ANESTHETICS

EMIL MAYER, M.D.

Chairman, Committee for the Study of Toxic Effects of Local Anesthetics of the American Medical Association

NEW YORK

Since the publications of the Committee for the Study of Toxic Effects of Local Anesthetics [1] in 1924 I have been in receipt of many communications. All expressed their appreciation to the Board of Trustees and the Therapeutic Research Committee of the Council on Pharmacy and Chemistry for instituting and supporting the investigation.

Without making any special effort to secure reports of further fatalities, I have learned of fourteen additional deaths, none recorded in medical journals. With one exception these occurred in a limited but very populous area of about 6,000,000 inhabitants during 1925, 1926 and 1927. The local anesthetics used were: cocaine, three; cocaine-procaine, two; procaine, eight; butyn, one. The cocaine-procaine fatalities were recorded as procaine, but the history obtained showed that cocaine had been used first. In at least two of the procaine fatalities the patients seem to have been practically moribund before operation was attempted. Of remarkable interest is that not a single one of these fatalities was ascribed to substitution, which was so frequent in our former report. It will be noted that one of the deaths from cocaine followed the use of cocaine paste, which our committee stated was dangerous. Case 8 was most carefully observed. No cocaine was used; the fluid injected was analyzed and the sad ending can be ascribed only to anaphylaxis. We still find the diagnosis of status lymphaticus made without any justification for it. In one case there was no necropsy and yet status lymphaticus was given as a cause. The trend of all communications is that cocaine is being used much less frequently than formerly, being limited to aiding examinations or for endolaryngeal work. The number of cocaine fatalities, five, is a very large number when the relative infrequency of its use is taken into consideration. Even those who still use it in intranasal operations confess that they would not have the temerity to use it in the pharynx. After eight years of study of this subject I still feel that procaine hydrochloride is undoubtedly the safest of all the local anesthetics now in general use.

REPORTS OF FATALITIES

COCAINE

CASE 1.—*For tonsillectomy.* June 23, 1925. A woman, aged 22. Application of a freshly prepared solution of cocaine hydrochloride, 4 per cent. Became very excitable, followed

1. Mayer, Emil: The Toxic Effects Following the Use of Local Anesthetics, J. A. M. A. 82: 877 (March 15) 1924.

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by general intermittent convulsions. Throat cleansed; injection of morphine and atropine, followed by solution of epinephrine hydrochloride and artificial respiration. Death in forty-five minutes.

CASE 2.—*For tonsillectomy.* May 10, 1927. A girl, aged 17. Morphine, ⅛ grain (11 mg.) before operation; 2 cc. of a 5 per cent solution of magnesium sulphate injected one hour before operation; 2½ grains (0.16 Gm.) of powdered cocaine moistened with epinephrine solution swabbed on tonsils. Death promptly ensued. No necropsy. Status lymphaticus given as cause of death.

CASE 3.—*Following accidental injury to axilla.* Aug. 10, 1927. A girl, aged 9 years. Four cubic centimeters of a 1 per cent solution of cocaine hydrochloride injected about the wound. Convulsions and respiratory failure in a few minutes. Necropsy showed a markedly large thymus, weighing 58 grains (3.75 Gm.).

COCAINE-PROCAINE HYDROCHLORIDE

CASE 4.—*For tonsillectomy.* Sept. 23, 1925. A woman, aged 35. Cocaine hydrochloride solution, 10 per cent, swabbed on throat, amount not stated; then 5 drachms (18.5 cc.) of 0.125 per cent solution of procaine hydrochloride injected. Death immediate; attributed to procaine. Necropsy showed no pathologic changes.

CASE 5.—*For tonsillectomy.* May 10, 1927. A girl, aged 17. Injection of morphine sulphate, ¼ grain (16 mg.), with atropine sulphate, 1/150 grain (0.4 mg.), one-half hour before operation. Ten per cent solution of cocaine hydrochloride applied, 4 or 5 drops to anterior and posterior pillars of tonsils; similar application of solution of epinephrine hydrochloride, 1:1,000, then injection of 0.5 per cent solution of procaine hydrochloride with epinephrine. Three injections, about 2 cc. in all. Both tonsils removed. Sudden cyanosis and collapse. Stimulation and artificial respiration of no avail. Death attributed to procaine. Necropsy showed enlarged thymus, 30 grains (2 Gm.). No cocaine found chemically in liver.

PROCAINE HYDROCHLORIDE

CASE 1.—*For tonsillectomy.* Sept. 8, 1925. A woman, aged 20. Six cubic centimeters of a 0.5 per cent solution of procaine hydrochloride injected. One tonsil removed; much edema and collapse followed; patient removed to ward; death immediate thereafter. No necropsy.

CASE 2.—*For prolapse of rectum.* Oct. 27, 1925. A man, aged 61. Spinal anesthesia. No further details obtained.

CASE 3.—*For hemorrhoids.* Aug. 7, 1925. A man, aged 42. Morphine, ⅙ grain (11 mg.) previously injected; 12 cc. of a 0.5 per cent solution of procaine hydrochloride with epinephrine injected. Convulsions and death.

CASE 4.—*Duodenal ulcer; pyloric obstruction.* July 23, 1927. A colored woman, aged 42. Peritoneal cavity opened; 5 cc. of a 0.5 per cent solution of procaine hydrochloride injected; convulsions and death. Necropsy: thymus, present weight about 12 grains (0.8 Gm.); persistent thymus. No procaine or cocaine found in liver chemically.

CASE 5.—*For prostatectomy.* Sept. 30, 1927. A man, aged 51. Adenomatous hypertrophy of prostate gland. Suprapubic cystotomy performed under procaine infiltration. Two weeks later, perineal prostatectomy under sacral and parasacral anesthesia. Procaine hydrochloride injected, amount and concentration not stated. Convulsions and death. Necropsy showed chronic myocarditis.

CASE 6.—*Tumor of right parotid.* Oct. 15, 1927. A man, aged 45. The tumor had been extensively irradiated and was very painful, the size of an olive. The patient was very apprehensive; 40 cc. of a 1 per cent solution of procaine hydrochloride injected; patient died suddenly while tumor was being removed. Necropsy showed thymus and thyroid somewhat enlarged. Brain examined chemically for cocaine or procaine with negative results.

CASE 7.—*Bilateral inguinal hernia.* Dec. 6, 1927. A man, aged 69. Fecal vomiting, obstipation, three days; vomiting, two days; auricular fibrillation; myocarditis. Died on operating table. Procaine hydrochloride, 1 per cent, for skin, 0.5 per cent for deep infiltration.

CASE 8.—*For tonsillectomy.* Dec. 2, 1927. A man, aged 26. Careful examination showed no abnormal condition except a chronic persistent eczema for some months. There was evidence of chronic infection of the tonsils. Seated, without previous administration of any narcotic or hypodermic injection; the throat was injected at four points with approximately 2.5 cc. of a 0.5 per cent solution of procaine hydrochloride made two days previously, to which had been added just before injection 6 drops of solution of epinephrine hydrochloride to an ounce of procaine solution. Immediate nausea. Operation begun on right tonsil. Patient gagged and vomited. Tonsil forceps removed. Convulsions, extreme cyanosis, marked dilatation of pupils. Violent convulsions with clonic muscular contractions that threw him practically out of the chair. Recumbent position; artificial respiration; oxygen. Solution of epinephrine hydrochloride injected directly into heart muscle. Death immediate. Contents of fluid in syringe, also that of original container, sent to laboratory for examination. The two solutions were found to be of the same strength and contained procaine only.

BUTYN

For tonsillectomy. Sept. 1, 1925. A woman, aged 20. Butyn, 0.5 per cent, injected; operator states that not more than 2 cc. was used. Convulsions occurred in three minutes; lasted five minutes; patient became unconscious and was removed to the hospital, where she died. Operation began at 12:35 p. m.; patient died at 1:20. Necropsy revealed a large thymus, weight not given.

666 West End Avenue.

Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

B. ACIDOPHILUS MILK-ADOHR.—A milk culture of *B. acidophilus.* It contains not less than 250 millions of viable organisms *(B. acidophilus)* per cubic centimeter at the time of sale..

Actions and Uses.—See Lactic Acid-Producing Organisms and Preparations (New and Nonofficial Remedies, 1928, p. 228).

Dosage.—For adults, from 500 to 1,000 cc. daily, the amount to be increased or decreased as required. In some cases the addition of 100 Gm. of lactose daily is recommended, and in rare cases 200 and even 300 Gm. of lactose daily for a week or more. When used in infant feeding it may be diluted with boiled water, it being borne in mind that vitamin C is lacking. B. acidophilus milk-Adohr is marketed in bottles containing 500 cc. and 1,000 cc.; it must be kept cool and should be used prior to the date stamped on the package.

Manufactured by the Laboratory Division of the Adohr Creamery Company, Los Angeles, Calif. No U. S. patent or trademark.

Whole cow's milk is standardized to a fat content of 2 per cent by the addition of fresh skim milk and sterilized at 96 C. for a period of one hour and fifteen minutes on two successive days. After the second heating the milk is cooled to 37 C. and inoculated with a twenty-four hour culture of *B. acidophilus.* After inoculation the milk is kept at 37 C. for from twenty to twenty-four hours until an acidity is reached such that 10 cc. will require for neutralization 8.3 to 9.0 cc. of tneth-normal sodium hydroxide solution, using phenolphthalein as indicator. The product is then agitated until homogeneous, cooled to from 7 to 9 C., and transferred to bottles.

PHANODORN (See New and Nonofficial Remedies, 1928, p. 96).

The following dosage form has been accepted:

Phanodorn Tablets, 3 grains.

EPHEDRINE SULPHATE-P. D. & CO. (See New and Nonofficial Remedies, 1928, p. 178).

The following dosage form has been accepted:

Solution Ephedrine Sulphate-P. D. & Co., 3 per cent: It is preserved with chlorbutanol, 0.5 per cent.

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SATURDAY, APRIL 21, 1928

CAPILLARY PERMEABILITY

Of the 40 kilograms of water in the adult person weighing 60 kilograms, less than 5 kilograms is present in the circulating blood. The rest is distributed for the most part throughout the tissues and cells, probably in large degree in some "bound" rather than entirely free form. Occasions arise, however, when the water and fluids of the body get out of bounds, so to speak; they accumulate in unaccustomed places, giving rise to collections of lymph of varied composition that are often recognized as edematous fluids. The clinician has abundant opportunity to deal with transudates—noninflammatory edemas—and with exudates of inflammatory origin. Consequently the genesis of the changes that give rise to such abnormalities of fluid distribution in the organism is of great interest in medicine.

The earliest hypothesis to account for the appearance of fluid outside the blood vessels was that of simple filtration. Furthermore, there is no obvious reason why the forces of osmosis and diffusion should not also come into play at times. In reviewing the evidence, Wells [1] makes the logical deduction that at least some of the lymph does escape from the vessels through simple filtration, for the pressure inside the capillaries is presumably greater than outside, the capillary walls are not water-tight, and they are not impermeable to the substances dissolved in the plasma. Likewise, osmotic exchanges surely go on between the vessels and the tissue cells, and the conditions that determine the water content of our colloid solutions constantly vary. The question that remains, Wells adds, is, Do these few factors account for all of the lymph formation, and are they sufficient by themselves to explain the physiologic regulation and the pathologic variations in the lymph flow?

The peculiar nature of the capillary containers of the blood must not be overlooked. They are ordinarily rather impermeable to protein. Thus the glomerular filtrate in the kidneys is entirely devoid of protein. The normal capillary wall of the mesentery likewise appears to remain impermeable to protein even during dilatation. Mere increase in capillary pressure or hyperemia alone does not always suffice to force protein through the capillary wall so as to give rise to an albuminous transudate; yet there are abundant evidences that the fluid passing through the vessel walls may contain abnormally large amounts of protein. The protein content of the thoracic lymph varies widely under a diversity of experimental conditions. These facts have given rise to the further conclusion that somehow the capillary walls must at times undergo a "change in permeability," whatever its precise nature may be.

The newer experimental technic, whereby the condition of the capillaries may be noted through direct observation with the aid of suitable optical apparatus, has already greatly advanced our knowledge. We need only recall the classic studies of Krogh [2] of Copenhagen and the investigations of Hooker [3] and others in this country. The ingenious devices introduced by Landis [4] at the department of physiology in the University of Pennsylvania have permitted the undertaking of unique microchemical injection studies of capillary permeability. By this means it has been shown that the rate of filtration of fluid through the capillary wall is directly proportional to the excess of capillary pressure over the osmotic pressure of the plasma proteins. The two forces obviously work in opposite directions, blood pressure tending to drive fluid out of the vessels, osmotic pressure to retain it. Since accumulated metabolic products are rather generally believed to produce vasodilatation and hyperemia, and since local active hyperemia is accompanied by a rise in capillary pressure, an increased rate of filtration from the blood into the tissue spaces must result. This aids in explaining the increase in lymph flow that accompanies tissue activity. However, as Landis points out, it does not explain the presence of protein in the filtrates collected after periods of interrupted blood flow, since the normal capillary wall, even though dilated, seems to be impermeable to the colloidal constituents of the plasma. Apparently, however, a sufficiently prolonged interruption of circulation, particularly if accompanied by tissue activity, renders the wall permeable to the plasma proteins.

To account for increase in the permeability of the capillary wall, Landis [5] has recently postulated three possibilities: lowered oxygen tension; increased carbon dioxide tension; local increase in acidity due to accumulation of metabolites. His beautiful direct measurement of fluid movement through the walls of single

1. Wells, H. G.: Chemical Pathology, ed. 5, Philadelphia, W. B. Saunders Company, 1925.

2. Krogh, A.: Anatomy and Physiology of the Capillaries, New Haven, Yale University Press.

3. Hooker, D. R.: Evidence of Functional Activity on the Part of the Capillaries and Venules, Physiol. Rev. **1**: 112 (Jan.) 1921.

4. Landis, E. M.: Am. J. Physiol. **75**: 548 (Feb.) 1926; **81**: 124 (June) 1927; **82**: 217, 1927.

5. Landis, E. M.: Micro-Injection Studies of Capillary Permeability: III. The Effect of Lack of Oxygen on the Permeability of the Capillary Wall to Fluid and to the Plasma Proteins, Am. J. Physiol. **83**: 528 (Jan.) 1928.

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capillaries, with the direct determination of capillary pressure, indicates that lack of oxygen alone is capable of producing an increase of permeability sufficient in degree to permit the passage of protein. The accumulation of carbon dioxide, and of acid products, certainly within the physiologic range, have almost no effect on fluid movement. Landis notes a particular interest in such effects of anoxemia, because it seems probable that the edema of cardiac decompensation cannot be explained purely in terms of a rise in capillary pressure. Though venous pressure is uniformly elevated during the accumulation of edema fluid, there is no general agreement concerning capillary pressure, which may be elevated or may be lower than normal. The studies of Landis, as he himself has interpreted the outcome, make it appear that oxygen lack, in addition to its indirect effects through the tissue metabolites on capillary diameter and rate of flow, also directly increases the permeability of the capillary wall, permitting not only the more rapid filtration of fluid but even the passage of the plasma proteins. The asphyxiated capillary wall resembles the normal vessel in that fluid movement is directly proportional to the difference between capillary pressure and the effective osmotic pressure of the plasma proteins, though in the asphyxiated vessel the latter pressure is lowered by the passage of protein through the capillary wall, which is, however, still merely a passive filter, though more permeable than normal.

RESPIRATORY DISEASES: A SPECIAL PROVINCE OF THE GENERAL PRACTITIONER

In an illuminating address before the New York Academy of Medicine a few months ago, Dr. Edgar Sydenstricker,[1] statistician of the United States Public Health Service, pointed out that the use of death rates as an index of the prevalence of disease has been so universal that the problems and aims of public health are set forth almost entirely in lethal terms when statistics are used. This is unfortunate because it tends to direct attention primarily to lethal disorders, to the neglect of the broader field that is popularly designated as "ill health." Many factors in present-day life culminate in ill health rather than in death. From the standpoint of the public welfare these need consideration quite as much as the long recognized medical problems of the status of tuberculosis and cancer. Sydenstricker pointed out that one effect of too great emphasis on mortality statistics has been to foster a fallacious premise for public health work; namely, that a low death rate necessarily indicates the absence of ill health. Obviously, it does not. Sydenstricker reminds us that, on the contrary, an exceedingly unhealthful region may exhibit a mortality which is not extremely high, as, for example, a heavily infested hookworm locality or a section abounding in malaria. Pellagra may be widely prevalent in a community without affecting materially its general death rate or even causing a large number of deaths from the disease itself. Instances of the same sort could be multiplied. Much ill health, Sydenstricker concludes, that is manifested in symptoms, in discomfort, in lessened vigor and efficiency, even in illness and suffering, is not reflected in the death rate, except for certain diseases, for any practicable purpose in preventive work.

The deviation from "normal" health in the varied manifestations just referred to furnishes the most prominent occasion for demands for medical attention. Obviously, the fitness of the modern practitioner to fulfil what may properly be expected of him depends in no small measure on his ability to meet the most conspicuous of these demands. Several studies completed within recent times may serve to define the individual needs more concretely. The preliminary report of the Commission on Medical Education published a year ago contained elaborate statistics indicative of the health needs of the general population. They consisted of information secured in part by sampling the demands on general practitioners in communities small enough to give a clear picture of general practice. It showed that more than 90 per cent of the illnesses are of types that cannot be controlled on a community basis but are problems of individual patients. Less than 10 per cent are diseases against which public health efforts are mainly directed. This fact is an index of the growing efficiency of public health efforts and also emphasizes the necessity of treating the patient as well as the disease. The largest single item in the grouping of diagnoses reported in home visits in Great Britain as well as in Canada and the United States involved upper respiratory infections, which included more than one fourth of all the cases. In office visits this category of ailments was exceeded only by the demands of minor surgery. This situation is confirmed by a recent survey by the United States Public Health Service on the principal causes of illness in typical American communities. It shows that the rate of sickness from colds and bronchitis was the highest, being annually 418.6 per thousand persons. Influenza and grip came next, with a rate of 143.2; diseases of the digestive system were 96.5; tonsillitis and sore throat, 65.7; diseases of the nervous system, including headaches, 44.1; accidents and other external causes, 39.5; measles, 34.2; whooping cough, 22.6; rheumatism and lumbago, 21.5; heart and other circulatory diseases, 18.3.

The details just cited present an implication that is obvious. Every physician who does not covet a specialist's label of one sort or another should become well qualified to deal with the problems presented by the upper respiratory tract. They sometimes have remote involvements in the organism. The upper respiratory tract inevitably represents at present the main field of activity of the general practitioner to whom those who

1. Sydenstricker, Edgar: The Prevalence of Ill Health, Bull. New York Acad. Med. 4: 191 (Feb.) 1928.

seek medical attention turn. It may be argued that many of the ailments thus presented are of minor moment. To the patient, however, they are factors which either distress or render him "below par." They are impairments that may result sooner or later in morbid states, with varying degrees of inefficiency, suffering and fatality. Indifference toward them by the medical profession either tends to glorify the so-called respiratory specialist or drive the patient into the hands of the cults. It is timely for every general practitioner to perfect himself in the management of the respiratory ills.

UROLITHIASIS AND DEFICIENCY IN VITAMIN A

The interest aroused by the discovery of the indispensable function of vitamins in nutrition and the demonstration of various disorders as a consequence of vitamin deficiency have been attended with much theorizing as to the relation of these features to clinical problems. The publicity given to the newer knowledge has left some impressions that may be misleading. The dietaries of mankind are rarely so selected as to present the possibilities of single extreme deficiencies such as the experimenter purposely devises in his animal investigations. Indeed, it is not unlikely that human diets more often present multiple shortcomings in less extreme degree than a specific avitaminosis represents, and that the variety in the human regimen tends to avert the drastic shortcomings of the specially devised avitaminotic diets of the laboratory. Nevertheless the suggestions from the nutrition investigations of the present day deserve respectful consideration, particularly in view of the light that they have already thrown on a multiplicity of human disorders. On this account certain remarkable observations reported in THE JOURNAL more than a decade ago by Osborne and Mendel,[1] become of present interest. The New Haven investigators drew attention to the frequency of calculi in the urinary tract of rats on a diet deficient in vitamin A. In 857 necropsies they found calculi eighty-one times. "In every instance," they wrote, "where calculi developed, the animals were without an adequate source of the fat-soluble vitamin for some time." The possible relation of the genesis of certain urinary calculi to dietary factors thus became prominently suggested anew.

The observations of Osborne and Mendel have been confirmed in Japan;[2] and more recently in the Netherlands Institute of Nutrition in Amsterdam by van Leersum.[3] Concrements were found throughout the urinary tract of animals deprived of vitamin A. Not only did they consist of phosphatic calculi, but also at times deposits of calcium oxalate were recognized. As a consequence, hematuria sometimes occurred. Contrary to expectation, evident cystitis was rare. Van Leersum reaches the conclusion that there is a connection between vitamin A deficiency and the formation of phosphate calculi; at least, that in rats vitamin A deficiency may be a cause of phosphate calculi in the urinary tracts.

It is known that absence of the fat-soluble vitamin from the food causes typical changes in the epithelial cells of the mucous membranes, namely, keratinization, as shown by the xerophthalmia and the lengthening of the duration of that stage of the estrous cycle characterized by the repulsion of the horny cells. Probably such a morbid change of the epithelial cells of the tubules, in the last instance, gives the impulse to the deposition of calcium casts, which, once liberated, by means of further deposition of salts from the urine, grow to greater concrements. Can such possibilities ever arise in the human organism?

1. Osborne, T. B., and Mendel, L. B.: The Incidence of Phosphatic Urinary Calculi in Rats Fed on Experimental Rations, J. A. M. A. **69**: 32 (July 7) 1917.
2. Fujimaki, Y.: Japan M. World **6**: 29, 1926; abstr. Chem. Abstr. **20**: 2694, 1926. Saiki, T.: Deutsche med. Wchnschr. **53**: 517, 1927.
3. Van Leersum, E. C.: Vitamin A Deficiency and Urolithiasis, J. Biol. Chem. **76**: 137 (Jan.) 1928.

Current Comment

BLOOD CHLORIDE IN INTESTINAL OBSTRUCTION

One of the striking effects of acute intestinal obstruction, particularly when the upper reaches of the small intestine are concerned, is the pronounced change in the chemical composition of the blood. There is a striking augmentation of the nonprotein nitrogen content, first observed by Tileston and Comfort[1] at the Yale School of Medicine in the days soon after the introduction of microchemical methods adapted to the study of the blood. Urea levels similar to those found in fatal uremic coma have been reported. They may be the result of absorption of cleavage products from the intestine, or toxicogenic destruction of tissue proteins, or both. An alkalosis represented by an increase in the carbon dioxide combining power of the blood plasma has also been observed. A more puzzling manifestation has been the decrease in the concentration of chlorides in the blood, a feature stressed by Haden and Orr[2] in 1923. The explanation for this significant alteration in a blood component that ordinarily exhibits a fairly constant content in the circulating medium has now been supplied by L. R. Dragstedt[3] of the University of Chicago. He has noted that the well known toxic fractions in obstruction fluids are powerful secretagogues, and when injected into dogs cause a marked augmentation of gastric, pancreatic and intestinal secretion. Accordingly, it seems probable from this as well as other evidence obtained by other workers that the fall in blood chlorides in obstruction is due to their accelerated passage into the alimentary tract and

1. Tileston, Wilder; and Comfort, C. W., Jr.: The Total Nonprotein Nitrogen and Urea of the Blood in Health and in Disease, Arch. Int. Med. **14**: 620 (Nov.) 1914.
2. Haden, R. L., and Orr, T. G.: Surg. Gynec. Obst. **37**: 465 (Oct.) 1923; J. Exper. Med. **37**: 365 (March) 1923.
3. Dragstedt, L. R.: Blood Chemistry in Intestinal Obstruction, Proc. Soc. Exper. Biol. & Med. **25**: 239 (Jan.) 1928.

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failure of reabsorption. This observation may have a more widespread significance than its relation to intestinal obstruction alone involves. It is well known that when the intake of chlorides is decreased, as in starvation, there is conservation of the body's supply. The excretion through the kidneys usually drops to insignificant amounts. The occasion for continued loss of chloride is not through the renal functions but through secretion into the alimentary tract either as hydrochloric acid in the stomach or as chlorides in secretions pouring directly into the intestine. Prolonged vomiting thus tends to eliminate chlorides, as do the severer types of diarrhea when absorption does not keep pace with secretion into the bowel. The importance of chlorides in many regulatory functions of the organism makes a better knowledge of their varying fate in the bodily functions welcome.

EXERCISE AND DIGESTION

Muscular activity directly or indirectly influences the functions of many parts of the body. The circulation is markedly altered by exertion. Dilatation of the blood vessels in the contractile tissues allows a greater flow of the circulating medium to them, and this may be compensated by constriction of vessels in other organs, particularly in the abdominal region, as well as by increased cardiac response. The pioneer American physiologist, William Beaumont, included among the "Inferences" published in his classic Experiments and Observations on the Gastric Juice and the Physiology of Digestion, in 1833, the statement that "gentle exercise facilitates the digestion of food." Perhaps this is why a treatise on personal hygiene [1] states, nearly a century later, that "gentle muscular activity after meals promotes normal digestion and should be practiced for a quarter or half an hour after each meal; but violent exercises immediately after meals should be avoided, as a large amount of blood is then engaged by the digestive system." Such conclusions are usually based on impressions rather than on accurate data. It is a common lay belief that exercise immediately after eating interferes with the digestion of food. Crandall [2] has investigated this more precisely at the University of Wisconsin on dogs carrying an accessory Pavlov gastric pouch. Thus work and gastric secretory response could be accurately measured. All extrinsic factors, particularly the important ones of psychic character, that might be expected to alter the rate of secretion were controlled as well as possible. It was found that exercise depresses the gastric secretion during the period of activity. Exercise demonstrably brings about a redistribution of blood, a rise in body temperature, and a change in the blood constituents. Crandall points out that any or all of them may be effective in reducing the gastric secretion when an animal is exercised. Experimentation, he concludes, confirms the common observation that heavy exercise interferes with digestion, and gives evidence for the statement that rest after meals is beneficial.

1. Fisher, Irving; and Fisk, E. L.: How to Live, New York, Funk & Wagnalls Company, 1925.
2. Crandall, L. A.: The Effect of Physical Exercise on the Gastric Secretion, Am. J. Physiol. **84**: 48 (Feb.) 1928.

THE PHYSIOLOGIC POTENCY OF ACTIVATED STEROLS

One of the most striking features of the modern study of nutrition is the demonstration of the importance of small quantities of certain substances that belong in the category of food factors. The amount of iodine, for example, that will preserve the structural and functional integrity of the thyroid gland may properly be designated as minute. The content of this element in the entire body is readily expressed in milligrams, the major part of which often amounts to less than 10 mg. incorporated in the thyroid itself. Although the vitamins have not yet been isolated in any instance in demonstrably pure form, the requisite dosage of the best concentrates now available is so small as to awaken surprise by the mere mention of the measurements on record. Mendel [1] has remarked, in speaking of vitamin B, that the greater part of such concentrates as have already been prepared consists of nonvitamin components; hence the minuteness of the requisite daily dose becomes impressive. It is probably represented by a few parts per million of the active body tissues. A few milligrams of good cod liver oil suffice to maintain a growing small animal in health so far as its need of vitamin A is concerned; and, if one bears in mind that the active component is a nonsaponifiable fraction of the oil, the absolute quantity of the vitamin involved must be very small, representing less than 0.01 per cent of the food. How far from the minimum such approximations may be is well illustrated by the studies on vitamin D as it is represented in substances "activated" by exposure to ultraviolet radiation. At the University of Wisconsin, Fosbinder, Daniels and Steenbock [2] have determined through careful photochemical measurement the amount of light of definite wavelength required to activate effectively a receptive sterol substance. From this the quantity of antirachitic material involved could be indirectly estimated. The calculation indicates that about twenty billionths gram of vitamin D is sufficient to produce calcium deposition in a rachitic rat. This, the Wisconsin students say, implies that a quantity of vitamin D so small as to defy any chemical test is sufficient to initiate a cure of rickets. It is difficult, then, to draw definite conclusions concerning the antirachitic properties of irradiated material from the gross chemical or physical properties. The provitamin is at present believed to be ergosterol.[3] Rosenheim and Webster [4] of England have already reported that ten millionths gram of irradiated ergosterol daily is sufficient to promote the healing of rickets in rachitic rats. How much of the substance exposed is actually activated by irradiation is not yet known, so that isolation experiments may in the future reveal products of even greater potency. Incidentally, it may be remarked that the quantities of potent substances here reported are smaller than the amounts of drugs like epinephrine that can be detected by the most delicate physiologic tests.

1. Mendel, L. B.: Nutrition: The Chemistry of Life, New Haven, Yale University Press, 1923.
2. Fosbinder, R. J.; Daniels, F., and Steenbock, H.: A Quantitative Study of the Photochemical Activation of Sterols in the Cure of Rickets, J. Am. Chem. Soc. **50**: 923 (March) 1928.
3. The Search for the Antirachitic Vitamin, Current Comment, J. A. M. A. **88**: 1486 (May 7) 1927; Ergosterol, a Precursor of the Antirachitic Vitamin, editorial, ibid. **88**: 1969 (June 18) 1927.
4. Rosenheim, O., and Webster, T. A.: Biochem. J. **21**: 389, 1927.

Association News

THE MINNEAPOLIS SESSION

Hotels at Minneapolis

On advertising page 31 of this issue of THE JOURNAL appears a list of hotels in Minneapolis together with a blank for making suitable reservations. The Committee on Hotels of the Local Committee of Arrangements will assist physicians who desire to make room reservations. The coupon should be sent to the hotel which the applicant wishes to use. If that hotel is already filled, the manager will refer the coupon to the Committee on Hotels, which will aid the physician in securing a suitable reservation. Consult the announcement on advertising page 31.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Hospital News.—The cornerstone of the new city and county health center at Santa Monica was laid, March 27, with appropriate ceremonies.——The new building of St. Joseph's Hospital on Buena Vista Avenue, San Francisco, was open to the public, March 25.

Society News.—Dr. James Ross Moore, Los Angeles, addressed the San Diego County Medical Society, April 10, on "Treatment of Syphilis"; Dr. Julius Bauer, Vienna, addressed joint meetings of the San Diego Academy of Medicine and the county medical society, March 13, on classification and treatment of hyperthyroidism.

Number of Licensed Chiropractors.—Since the establishment of the State Board of Chiropractic Examiners of California, 2,188 persons have been licensed to practice chiropractic, and of this number 2,101 held unrevoked certificates at the time the annual report of the board was submitted to the governor, Dec. 1, 1927. There were 219 applications for licensure accepted for filing during the year.

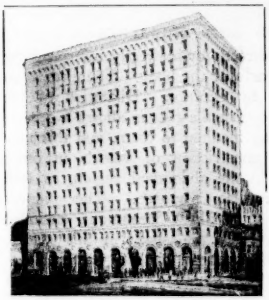
Dr. Richard P. Strong to Lecture.—The third course of lectures under the Morris Herzstein Lectureship on Diseases of the Pacific Basin will be given, May 2-3, at 8 p. m., by Dr. Richard P. Strong of the Medical School of Harvard University, Boston, at Lane Hall, Stanford University School of Medicine, San Francisco, on "Recent Advances in Tropical Medicine." All physicians and medical students are invited.

Funds Requested for Blood Transfusions.—There is a serious need for funds to provide blood transfusions for indigent patients at the University of California Hospital, Fourth and Parnassus avenues, San Francisco. The director of hospitals, Dr. Lionel S. Schmitt, in making the announcement, brought to the attention of the public that a blood transfusion is one of the few things to which organized support has not been given. This is an opportunity for public-spirited citizens to serve their needy fellowmen when very ill. There has been an average of more than ten transfusions a month at this hospital in the last year. In many cases, there was no money available. The patients were without friends, and professional blood donors had to be used at a cost of $50 per transfusion, leaving the problem of finding that sum to the physician in charge. Lodges and clubs came to the financial assistance of the physician at times, and, in some cases, the physicians themselves have paid the bills. Dr. Schmitt pointed out that the number of transfusions is becoming too large to be handled personally, as the physician, in most cases, has little or no time to solicit funds.

Naprapath Hunt Cites Encyclopedia.—When an investigator of the state board of medical examiners called recently on Naprapath George A. Hunt in Oakland to copy the names on his diploma from the Chicago College of Naprapathy, he noted in Hunt's "literature" a paragraph purported to be a true copy from the Encyclopedia Americana, volume 19, page 703. The quotation as reported found in Hunt's "literature" differs somewhat from that in the 1927 edition of the Encyclopedia Americana, which follows (italics ours). The word *revolutionizing*, for example, takes the place of *in contradistinction to*, and *discovered* is used in place of *contended*. To return to Hunt's diploma. The investigator found that the first name on it was "Oakley Smith, D.N., Ar.D. President and member of the faculty. Connectivology and Chardosis." Hunt was not certain what Smith's "Ar.D." means, and neither are we.

Naprapathy (năp-răp' ă-thē): The science of drugless healing, *in contradistinction to* the treatment of disease by surgery or medicine. It is founded upon the researches of Dr. Oakley Smith who *contended* that human ailments are traceable to sprained or diseased ligaments connected with the spinal column, thorax and pelvis. It is claimed that by overcoming these, with scientific manipulation, which relieves the pressure upon the nerves and the arterial system, most of the diseases of the human body can not only be overcome, but a permanent cure effected. It is also claimed that diseased conditions incurable by older methods yield to naprapathic treatment.

Los Angeles' New Medical Building.—The Los Angeles County Medical Association has leased for ninety-nine years its lot on Wilshire Boulevard and Westlake Street, Los Angeles, to the Los Angeles County Medical Holding Corporation, which has been formed by members of the medical association to build a thirteen-story professional office building. The funds are to be provided by mortgage of the fee and assignment of the lease. The mortgage will be for $600,000 with annual payments on the principal of $30,000 a year. Sufficient stock is to be sold at par for the balance of the funds required. The bond issue has been sold. Over and above the proceeds of the bond issue, the sale of 3,400 shares of stock will be required, $10 of which was to be paid when subscribed and $10 when construction started; $40 in sixty days and $40 in 120 days. The building will cover the entire frontage on the boulevard and have a depth of about 67 feet.



CONNECTICUT

Personal.—Charles Edward A. Winslow, Dr.P.H., Anna M. R. Lauder professor of public health, Yale University School of Medicine, has been awarded the Ling medal by the Ling Foundation of Los Angeles in recognition of his "unselfish work in behalf of the health progress of school children."——Dr. Franklin S. Wilcox has tendered his resignation as superintendent of the Norwich State Hospital, Norwich, effective April 1.

Survey of Tenements in New Haven.—The Community Chest has made a survey of housing conditions in New Haven, where the construction and maintenance of tenements is governed by state and local legislation. The inspection of tenements was done by five department of health inspectors. A tenement for the purpose of this survey is a house rented as a residence for three or more families. The typical tenement building in this community is three stories high. The 3,179 tenements house 49,999 persons, or 27 per cent of the city's population. The overcrowding found in previous housing studies has been reduced to 3 per cent of the apartments. There are eighty-nine persons per hundred rooms in the tenements. Only thirteen apartments were found in which there was less than 500 cubic feet of air per person, while in 97 per cent of all the apartments occupied, there was more than 1,000 cubic feet per person. In visiting 48,695 rooms, in this survey, the inspectors found only 351 that were classified as dark and forty-one as semi-dark. Basements were used for living purposes in only eighty instances. There were 11,699 water closets for 12,640 apartments. Less than 2,000 small apartments shared common toilets. There were 704 tenement houses without bath tubs among the total of 3,179 tenements, although no report in this respect was made on 280 houses. The general housing conditions may be said, therefore, to have improved since the last survey in 1917.

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DISTRICT OF COLUMBIA

Howard University Dedicates Medical Building.—The new $500,000 medical school building for Howard University was dedicated, April 9-10, with appropriate ceremonies. Secretary of Interior Dr. Hubert Work presented the building, which was received on behalf of the university by the secretary, Emmett J. Scott, LL.D., and by Dr. Michel O. Dumas on behalf of the trustees. The president of the university, Mordecai W. Johnson, presided at the exercises. A letter of greeting from President Coolidge was read. Dr. Work said that the success of Howard University is founded on the disposition of white and colored races to work in harmonious association; it is the largest university of its kind in the world, the graduates of the medical school now numbering 2,526. The new building, which adds 70,000 square feet of lecture and laboratory space, is built of reenforced concrete, brick, limestone and steel. The central portion on the ground floor is a museum, preparation room, radiographic department, and balance and storeroom. There are dark rooms, animal rooms, and skeleton rooms, an embalming room and practically all other modern facilities required in a medical school. There is an auditorium with a seating capacity of 500, and four stairways on opposite sides of the interior court, making it possible to reach any laboratory from the outside of the building or to use any portion of

the structure while the remainder is locked. The government appropriated $370,000 toward its cost and equipment and the General Education Board, New York, $170,000. A bronze tablet containing the names of sixty-three colored persons who donated $1,000 or more toward endowment of the medical school was dedicated. There was a public meeting, Monday evening, addressed by Surg. Gen. Hugh S. Cumming, U. S. Public Health Service; Dr. Percy M. Ashburn, medical corps, U. S. Army; Dr. Charles H. Garvin, Cleveland, and Louis I. Dublin, Ph.D., New York. Other speakers were Dr. Nathan P. Colwell, Chicago, secretary, Council on Medical Education and Hospitals, American Medical Association; Dr. William Pepper, dean, University of Pennsylvania School of Medicine, Philadelphia; Dr. George M. Kober, dean and professor of hygiene and dietetics, Georgetown University School of Medicine; Dr. John J. Mullowney, president and professor of applied psychology and professional efficiency, Meharry Medical College, Nashville, Tenn.; Dr. Joseph A. Robinson, Darlington, S. C., and Dr. T. Spotuas Burwell, Philadelphia.

FLORIDA

State Medical Election.—At the fifty-fifth annual meeting of the Florida Medical Association, Tampa, April 4, Dr. Frederick J. Waas, Jacksonville, was elected president; Drs. Mozart A. Lischkoff, Pensacola, Leland F. Carlton, Tampa, and George W. Potter, St. Augustine, vice presidents, and Dr. Shaler A. Richardson, Jacksonville, secretary-treasurer, reelected. The next annual meeting will be held in St. Augustine. Dr. John A. Simmons, Miami, the retiring president, was presented with a scarf pin as a token of appreciation of his services.

ILLINOIS

Two Medical Licenses Lost.—The State of Illinois Department of Registration and Education mailed from Springfield, last September, Illinois license number 17215, issued to Dr. John Edwin Habbe, and license number 17104, issued to Dr. Lorenz Henry Westenberger. These licenses have never been received by the parties concerned, nor have they ever been returned to the department unclaimed. Medical societies and others are requested to be on the lookout for these licenses either by number or by name, as it is possible that they may be in fraudulent use. The department of education and registration will appreciate any information concerning their disposition.

State Medical Meeting at Chicago.—The seventy-eighth annual meeting of the Illinois State Medical Society will be held at the Stevens Hotel, Chicago, May 7-12, under the presidency of Dr. G. Henry Mundt. The arrangements made by the committees indicate that this meeting should be the best the state society has held. Clinics will be provided at leading hospitals before, during and after the meeting, so the meeting will in fact be an intensive graduate course. In addition to scientific programs at the hotel, clinical meetings for the sections have been arranged at the Cook County Hospital and at each of the four class A medical schools. These will include demonstrations of clinical tests and research and moving pictures. The amount of clinical material and the number of papers to be presented by physicians of Illinois would, in itself, provide an unusually attractive program. However, there will be guest speakers from other states. Dr. Robert C. Lynch, New Orleans, will give the oration in surgery on "Carcinoma of the Larynx," illustrated by moving pictures, and Dr. Charles H. Nielson, St. Louis, Mo., the oration in medicine on "Problems of the Nervous and Neurotic Patient." Dr. Percy W. Toombs, Memphis, Tenn., will address the section on surgery on "Surgical Abuse of Cesarean Section," and Dr. William C. Finnoff, Denver, the section on eye, ear, nose and throat on "Difficulties in Diagnosis of Tuberculosis of the Eye." The section on public health and hygiene will be addressed by the state health officer of Tennessee, Dr. Eugene L. Bishop, Nashville, on "The Tennessee Plan for Tuberculosis Control"; by Dr. Samuel W. Welch, Montgomery, state health officer of Alabama, on "Relations Which Should Exist Between the Medical Profession and Public Health Officers," and by Dr. John E. Monger, Columbus, Ohio, state health officer, on "Control of Interstate Water Supplies." Dr. Joseph C. Bloodgood, Baltimore, will address the section on radiology on "Differential Diagnosis, Clinically by X-Ray, at Operation and with Frozen Sections of Various Types of Bone Cysts." The meeting, Tuesday evening, will be addressed by Dr. Olin West, Secretary and General Manager of the American Medical Association, on "What Organized Medicine Is Doing for the Profession." Thursday evening there will be a symposium on medical economics with ten minute talks. The house of delegates meets, Tuesday evening and Friday morning; the secretaries' conference, Tuesday; the annual president's dinner, Wednesday evening. There will be alumni dinners and reunions announced on the bulletin board. Entertainment for the ladies will include luncheons, fashion exhibits, teas and a reception. The Illinois Trudeau Society and the Chicago Tuberculosis Society will be the guests of the Municipal Tuberculosis Sanitarium of Chicago, May 7. Clinics and demonstrations have been arranged; all physicians interested in tuberculosis are invited to this meeting. The Illinois Medical Laboratory Association will hold its meeting, Tuesday noon. Not only are members of the state medical society invited to attend its own annual meeting but interns, medical and premedical students are requested to register as guests of the society. The chairman of the committee on arrangements is Dr. Nathan S. Davis III, 952 North Michigan Avenue, phone Superior 7184.

Chicago

Hospital News.—The Swedish Covenant Hospital, 2749 Foster Avenue, is constructing a $450,000 addition with a capacity of about 100 beds which is expected to be ready for occupancy, September 1.——The bed capacity of the Grant Hospital of Chicago has been increased to a total of 280, in addition to forty-five cribs.

Medical Society Again Sponsors Summer Clinics.—The Chicago Medical Society is again arranging for a series of graduate clinics at various local hospitals, June 18-30. The course is arranged into small groups of cases that have been well prepared for presentation from the clinical and laboratory standpoints and covering the whole field of medicine. Admission will be by card issued on receipt of the registration fee of $10 by the secretary of the Chicago Medical Society, 185 North Wabash Avenue.

Dr. Emerson to Give Adolph Gehrmann Lectures.—The faculty of the College of Medicine of the University of Illinois invites physicians and others to the Adolph Gehrmann lectures for 1928, which will be delivered by Dr. Haven Emerson, professor of public health administration, Colum-

bia University College of Physicians and Surgeons, New York, April 23-25, at 4 p. m., in room 404, 508 South Honore Street. The subjects will be "Diphtheria Problem in New York City," "Problem of Preventing Diabetes," and "Seasonal Variations in Growth as Evidence of Errors in Child Hygiene."

Twenty-Five Years Ago.—THE JOURNAL, April 18, 1903, published the following item: **Fear Rabies.**—The Chicago Medical Society, at its meeting, April 8, considered the danger from hydrophobia. Dr. Arthur D. Bevan read a paper on the prevention of rabies, which he said had caused ninety-one deaths since 1891. The society passed the following resolution:

> The Chicago Medical Society, through its board of councillors, calls the attention of the city authorities to the fact that the disease hydrophobia is prevalent in the city; that it is possible to practically eradicate it by proper dog laws properly enforced. Therefore it respectfully petitions the mayor and the common council to immediately take such steps as are necessary to accomplish this result.

IOWA

Society News.—The Page County Medical Society met, April 4, at Shenandoah; Dr. Frank M. Conlin, Omaha, spoke on "Prevention and Treatment of Diabetic Coma"; Dr. Howard B. Hamilton, "Management of the Vomiting Infant"; Dr. Robert D. Schrock, Omaha, "Fractures of the Upper Part of the Femur," and Dr. Charles R. Kennedy, Omaha, "Diagnosis of Genito-Urinary Diseases."

School Superintendent Accepts Chiropractors' Reports.—The superintendent of schools of Des Moines, J. W. Studebaker, recently issued an order to instructors to accept the certificate presented from chiropractors when students returned to school after an illness. The superintendent explained, according to the Des Moines *Register*, that it is not within the province of school health administrators to discriminate, but that a principal or nurse may reject a certificate from any one and request the opinion of school physicians or a physician of the city health department.

Health Officer Resigns to Enter Grocery Business.—Mr. William D. Hayes, for twelve years health commissioner of Sioux City, resigned, April 5, to become associated with a wholesale grocery company. Mr. Hayes was recently reappointed health commissioner, and he will remain on duty for sixty days pending the appointment of his successor. Mayor Huff accepted the resignation with regret, and expressed the thanks of the city for Mr. Hayes' service. Mr. Hayes is said to have been connected formerly with the Florida and Kentucky boards of health. In his new venture, he is to be superintendent of the manufacturing department and to have charge of the chemical and other laboratory tests for the grocery company.

KANSAS

License Restored.—The state board of registration and examination reports that the license of Dr. Arthur Hanford Nossaman, which was revoked, June 15, 1926, was restored to him by the board, Feb. 14, 1928.

Society News.—Dr. Charles Conover, Kansas City, Mo., addressed the Douglas County Medical Society, Lawrence, March 2, on "Endarteritis."——Dr. Claude J. Hunt, Kansas City, Mo., addressed the Johnson County Medical Society, Olathe, March 19, on "Goiter"; Drs. Morris H. Clark and Virgil W. McCarty, Kansas City, Mo., addressed the society, March 12, on "Headaches of Eye, Ear, Nose and Throat Origin."

MAINE

Personal.—Dr. John J. Linscott, Farmington, will celebrate his sixty-first year in the practice of medicine next month. When Dr. Linscott graduated in 1867, he came back to his home town, where he has practiced ever since. Dr. Franklin O. Lyford has practiced in Farmington for fifty-eight years. ——Dr. Harry S. Emery, Portland, was principal speaker at the quarterly meeting of the Kennebec County Medical Society, Waterville, April 3, on diabetes.—— Dr. John L. Pepper, Portland, addressed the York County Medical Society, Biddeford, April 5, on poliomyelitis, and Dr. George O. Cummings, Portland, on endoscopy.

MARYLAND

Personal.—Dr. Dean Lewis, surgeon-in-chief, Johns Hopkins Hospital, has been made a foreign member of the Societa Medico-Chirurgica of Bologna and an Ausserordentliches Mitglied der deutschen Gesellschaft für Chirurgie. ——Dr. Lawson G. Lowrey, director, Institute of Child Guidance, New York, gave one of the De Lamar lectures at the School of Hygiene and Public Health of Johns Hopkins University, April 3, on "Child Study Work."

Annual Health Conference.—Health officers and boards of health will meet at an annual health conference under the auspices of the state board of health, Osler Hall, Baltimore, April 26-28, immediately following the annual meeting of the state medical society. Other persons interested in public health activities are invited. There will be joint sessions with the public health nurses, Friday evening and Saturday morning. Among the speakers will be Drs. Edward Francis, U. S. Public Health Service, on "Tularemia and Malta Fever"; Allen K. Krause, Baltimore, "Early Diagnosis, After-Care and Social Reestablishment of the Tuberculous"; Nathan B. Herman, Baltimore, occupational diseases; C. A. Kane, health officer of Talbot County, county health work, and Ray S. Dixon, director, venereal disease clinics, Detroit, venereal disease control.

MICHIGAN

Personal.—Governor Green has appointed Dr. J. Earl McIntyre, Lansing, a member of the state board of registration in medicine to succeed Dr. Ansel B. Smith, Grand Rapids, resigned.——At the annual gridiron banquet of Sigma Delta Chi, a newspaper fraternity, Ann Arbor, April 5, the highest honor of the evening went to Dr. Gotthelf Carl Huber, who received "the favorable epithet," annually given by the newspaper men to some member of the faculty; the second honor, that of "loquacious lubricator," was bestowed on Dr. Hugh Cabot, who is to be also the guardian for a year of the famous oil can which is bestowed on that member of the faculty of most astute oratorial powers.

Dog Bites.—The Detroit department of health has issued a warning concerning rabid dogs. In the first quarter of the year at least 834 persons were bitten by dogs, 231 persons had taken the Pasteur treatment to prevent rabies and 150 dogs were known to have been rabid. The only dogs lawfully entitled to be on the streets, the health department states, are those which have a brass tag indicating that they are not only licensed but vaccinated against rabies. The city is attempting to place in the pound all other dogs on the streets, a stupendous undertaking. The cooperation of the public is urgently requested in reporting promptly to the health department dog bites, in the early institution of treatment should the animal prove to be rabid and in keeping stray dogs off the streets.

MINNESOTA

Society News.—Dr. Morris Fishbein, Chicago, editor of THE JOURNAL, will give a Mayo Foundation lecture at Rochester, April 24, on "Frauds and Quackery in Medicine"; Dr. James M. Ball, Jr., St. Louis, April 17, lectured on "Resurrection Days"; the annual foundation lecture in orthopedics was given by Dr. Arthur Steindler, Iowa City, April 16, on "Possibilities of Reconstruction of the Upper Extremity." ——Dr. Melvin S. Henderson, Rochester, addressed the Minnesota Academy of Medicine at the Town and Country Club, April 11, on "Bone Cysts of the Upper End of the Femur," and Dr. Edward S. Judd, Rochester, on "Hirschsprung's Disease." The by-laws of the academy provide that active members shall attend at least two meetings a year or furnish a satisfactory excuse; otherwise their names will be dropped.——Dr. Dallas B. Phemister, Chicago, addressed the Minneapolis Surgical Society, March 1, on "Bone Sarcoma." ——Dr. Julius Bauer, Vienna, gave a Mayo Foundation lecture at Rochester, April 3, on "Pituitary—Nervous Dyscrasias."

NEBRASKA

Belle Dewey Memorial Ward for Cancer.—By the terms of the will of the late Miss Belle Dewey, setting aside a sum to establish a place for women suffering from cancer who cannot afford treatment, the Nebraska Methodist Hospital, Omaha, has opened the "Belle Dewey Memorial." This ward will be an open unit, not reserved for members of the hospital staff, so that any physician in good standing will have the privileges of the ward and the use of the hospital's equipment in managing these cases.

Society News.—Drs. Walter C. Alvarez and Donald C. Balfour of the Mayo Clinic, Rochester, Minn., will address the Omaha-Douglas County Medical Society, April 24, on advances in gastro-intestinal physiology and advances in gastric surgery, respectively. At the April 10 meeting the following papers were read: Dr. John B. Potts, Omaha, "Foreign Bodies in Respiratory Tract and Esophagus," and

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Dr. Harrison A. Wigton, Omaha, "Has the Plea of Insanity Been Abused in the Criminal Court?" Dr. Charles F. Moon, Omaha, presented specimens of intra-uterine moles.

NEW JERSEY

Hospital News.—The New Jersey Hospital Association has changed the date of its annual meeting at Atlantic City to May 25-26, in order not to conflict with the convention of the three national nursing organizations in Louisville, Ky.

A New Hospital.—The new Beth Israel Hospital, Newark, was dedicated, February 19. It is a gift from the Jewish citizens of the community but will be operated as a nonsectarian institution, serving the rich and poor. The building represents an investment of $3,500,000, all of which has been contributed or pledged except $500,000 and this, it is expected, will promptly be raised. The design of this hospital is novel, having no counterpart in any country, according to the architect, Frank Grad, and the consultant, Dr. Sigismund S. Goldwater, New York. The capacity is about 300 beds; the superintendent is Dr. Paul Keller.

NEW MEXICO

Work of State Laboratory.—During 1927, the state public health laboratory made 7,310 examinations, for which the actual cost to the state was about $7,000. If this work had been charged for at the rate charged in private laboratories for similar work, it would have cost more than $26,000, according to the state bureau of health. The work included, in part, 1,315 stool examinations for typhoid, 1,799 blood tests for syphilis, 1,090 cultures for diphtheria, and tests of 1,057 water supplies. The laboratory does not accept work that is not strictly part of disease prevention, as it does not wish to enter into competition with private laboratories. Of thirty-five animal heads examined for rabies, during 1927, nineteen were found positive. The laboratory now makes tests of blood for malta fever.

NEW YORK

Society News.—Dr. Richard Kovacs, New York, addressed the Nassau County Medical Society at Nassau Hospital, Mineola, L. I., in March, on "Thermal Measures Including Diathermy" and "Ultraviolet Rays and Mechanical Measures."

New York City

Society News.—The New York Academy of Medicine conducted a symposium on personality and behavior problems, April 19; the speakers were Dr. William Healy, director, Judge Baker Foundation, Boston, and Dr. Lawson G. Lowrey, director, Institute for Child Guidance, New York. At this meeting, a portrait of Dr. William H. Park, which will be on exhibition after April 19, was presented to the academy. ——Dr. Carroll L. Nichols, Brooklyn, addressed the Medical Association of the Greater City of New York, April 16, on "Behavior and the Physician," and Dr. John E. Jennings, Brooklyn, on "Cancer of the Colon."——The Society of Physicians' Wives of Greater New York now has a membership of 350.——Local graduates of Austrian, German and Hungarian universities have organized the German Medical Society of the Bronx with Dr. Adolph Rostenberg, president, and Dr. Alfred Eichenberg, secretary.——The Bronx County Medical Society has voted an assessment of $2 per member to establish a medical library.——The International Medical Club of New York gave a reception and dinner at the Union League Club, April 14, in honor of a number of prominent physicians from various countries now visiting in the United States.

Personal.—Dr. George H. Semken lectured at the Mayo Foundation, Rochester, Minn., March 29 and March 30, on cancer of the lips, jaws and oral cavity.——Dr. Joseph Echtman has been appointed chief of the physical therapy department of the German Polyclinic. ——Dr. Joseph A. Lazarus has again been appointed associate surgeon of the Beth David Hospital.——Dr. Charles W. Perkins has been appointed roentgenologist to the West Side and St. Elizabeth's hospitals.——Dr. Anna Earl Purdy, an intern at the Norwegian Hospital, Brooklyn, is the first woman physician to be awarded a three year surgical fellowship at the Mayo Foundation, Rochester, Minn.; she will start her work in October.——The alumni of St. Luke's Hospital gave a banquet at the University Club, April 19, in honor of Dr. Francis Carter Wood, who has served the hospital for thirty years. ——Dr. James P. Kelleher has resigned from the staff of the Manhattan State Hospital to become clinical director of the Hudson River State Hospital.——Dr. Edward L. Keyes has been appointed consulting urologist to the state department of health.——Dr. Herman Schwatt, New York, has been appointed superintendent and medical director of the Sanatorium of the Jewish Consumptive Relief Society, Sanatorium, Colo.

Dr. Linsly Williams Appointed Head of Tuberculosis and Health Association.—Dr. Linsly R. Williams, director, New York Academy of Medicine, and managing director, National Tuberculosis Association, has been appointed president of the New York Tuberculosis and Health Association, 244 Madison Avenue, succeeding Dr. James A. Miller, who retired after nine years of service. Dr. Miller will remain a member of the board of directors. Among the new members of the board elected are Drs. Ernst P. Boas, William R. Janeway and John Sturdivant Read. In 1925, this association changed its name from the New York Tuberculosis Association to the New York Tuberculosis and Health Association. At that time, Dr. Miller said, in part, that the public had an incomplete idea of the association's varied line of endeavor in health education, health service for children, health information service and vocational, hospital, clinical, tuberculosis, advisory and research and health examination services, and that one of the most extensive pieces of public health work for negroes in the United States was carried on by the Harlem committee, comprising a campaign in health education, the maintenance of a dental clinic and outings for undernourished children. At the meeting in April, 1925, it was voted to organize a community dental service in New York, including a campaign in schools, workshops, clinics and hospitals, and active cooperation with the Columbia School of Oral Hygiene. The budget of the association for 1926 was $215,000, contributed by thousands of persons through the purchase of Christmas seals. Among other things, the dispensary service then comprised thirty-one tuberculosis clinics; the hospital service provided 1,503 artists to give concerts in tuberculosis hospitals, and the health speaker service provided health lectures for audiences that totaled about 500,000 people. In January, 1926, the New York Heart Association merged with the New York Tuberculosis and Health Association and a special committee was organized to carry on preventive work in this field.

OHIO

Society News.—Dr. Walter G. Stern, Cleveland, addressed the Marion County Medical Society, Marion, April 3, on the treatment of infantile paralysis, illustrated with lantern slides. ——Dr. Charles R. Sheckler was guest of honor at a dinner meeting of the Crawford County Medical Society, Bucyrus, April 2; he was presented with a complete set of fishing equipment. Dr. Sheckler will celebrate his fiftieth anniversary in the practice of medicine soon.——Dr. Charles W. Burhans, Cleveland, addressed the Sandusky County Medical Society, Fremont, March 29, on "Early Vomiting in Infants."

State Medical Meeting at Cincinnati.—The eighty-second annual meeting of the Ohio State Medical Association will be held at Cincinnati, May 1-3, at the Hotel Gibson, under the presidency of Dr. Leslie L. Bigelow, Columbus. Drs. John H. Stokes, Philadelphia, will speak on "The Future of Syphilis"; Palmer Findley, Omaha, "Puerperal Infection"; Irvin Abell, Louisville, Ky., "Chronic Dyspepsia from the Viewpoint of the Surgeon"; John J. R. MacLeod, Toronto, Canada, "Treatment of Diabetes in the Light of Recent Laboratory Researches"; John Shelton Horsley, Richmond, Va., "Considerations Concerning the Treatment of Cancer," and Joseph C. Beck, Chicago, "Twenty-Five Years Experience with Malignant Diseases About the Head and Neck." Prominent Ohio physicians will also read papers. Monday, preceding the meeting, clinics will be held in various hospitals. There will be motion pictures on malaria, 1: 30 p. m., Wednesday, showing the life history of the parasites in man and in mosquitoes. Following the adjournment of the house of delegates, the council will meet for reorganization. The organization luncheon at which county and state officers will be the guests of the association will be Wednesday noon with short addresses by the president-elect, Dr. Charles W. Stone, Cleveland; by the chairman of the committee on public policy, Dr. John H. J. Upham, Columbus, and by the chairman of the committee on medical defense, Dr. Jacob E. Tuckerman, Cleveland. The state medical journal announces that an unusually fine exhibit is promised. Notices of reunions, fraternity luncheons and smokers will be posted on bulletin boards at headquarters. The Ohio State Medical Golf Association will hold its eighth annual tournament,

Monday, preceding the meeting, at the Maketewah Country Club. Every member is eligible to participate. Details concerning arrangements may be had from Dr. John B. Morgan, secretary of the golf association, 623 Schofield Building, Cleveland.

OREGON

Personal.—Dr. De Walt Payne, Olive View, Calif., has taken up the duties of county health officer with headquarters at Roseburg, succeeding Dr. Thurston W. Laraway.——Dr. Malcolm Irvine has been appointed health officer of North Powder.

Hospital Establishes Cancer Department.—The Good Samaritan Hospital, Portland, inaugurated a clinic for the study, prevention and treatment of cancer, March 11, which, for the present, will be held on Mondays. Sections of the west wing of the hospital have been set aside for these cases. The work will include the examination and observation of suspected cases, and the care and treatment of established cases of cancer. The board of trustees of the hospital requests the cooperation of members of the staff, and will welcome suggestions as to how to make the new department most effective. Patients, when able, will be expected to pay the usual fees, and when unable to pay they will receive the service free.

Society News.—Dr. Julius Bauer, Vienna, Austria, gave the sixth annual lecture under the Noble Wiley Jones lectureship of the University of Oregon Medical School, Portland, and addressed the county medical society, March 21-22, on "Individual Constitution in Clinical Pathology" and "New Aspects in the Treatment of Obesity."——The Lane County Medical Society met jointly, March 17, with the Southern Willamette District Dental Society. A dinner preceded the meeting; the women's auxiliary entertained the dentists' wives at a separate dinner and bridge party. Among the speakers were Dr. Irvin R. Fox, Lawrence E. George, D.D.S., and Drs. Omar R. Gullion, Leslie S. Kent, William H. Dale and Albert H. Ross, all of Eugene.

PENNSYLVANIA

Hospital News.—The Erie County commissioners have voted to erect a county tuberculosis hospital of not less than 100 beds.——Dr. Jesse L. Wagner has been appointed chief of the ear, nose and throat department of the Reading Hospital; Dr. Earl W. Rothermel has been appointed an assistant in the department of orthopedics and Dr. Clarence E. Goode, assistant in the department of surgery.——The Eagleville Sanatorium, Eagleville, has opened a bronchoscopic department under the direction of Dr. Gabriel Tucker, Philadelphia.

Society News.—The Bedford Lecture.—The seventh Bedford lecture will be given at the Duquesne Club, Pittsburgh, April 26, 7 p. m., by Dr. Edward B. Heckel, Pittsburgh, chairman of the Board of Trustees of the American Medical Association, on "Realism in Medicine." The Allegheny County Medical Society, Pittsburgh, was addressed, April 17, by Drs. Charles K. Murray on "Paralysis Complicating Pregnancy"; Herbert G. Wertheimer, "Eczematoid Ringworm of the Extremities"; John W. Stinson, "Colloid Cancer of the Stomach"; Thomas L. Disque, "Kidney Function Tests in Surgery of the Urinary Tract"; John W. Boyce, "The New Lung Infection," and Edward W. Jew, "Practical Proctology, Diagnosis and Treatment."——At the Pennsylvania Safety Congress, Philadelphia, March 21-23, Dr. Isidor P. Strittmatter and Dr. Wilmer Krusen were chairmen of the health section meetings; among the speakers were Dr. Henry F. Smyth, Philadelphia, "Faulty Practices in Spray Painting"; Leonard Greenburg, U. S. Public Health Service, "Progress in the Field of Industrial Hygiene and Its Relation to the Physician"; Dr. Harry M. Stewart, Johnstown, "The Roentgen Ray in Industrial Survey," and Dr. Volney S. Cheney, Chicago, "Health as a Safety Factor."——The conference at Harrisburg, March 9, was said to be the first time that the state medical society invited a public health legislative representative from each component society to a conference with the committee on public health legislation of the state medical society. Thirty-nine of the sixty-three county societies were represented. Dr. Arthur C. Morgan, Philadelphia, president of the state medical society, presided. Under the guidance of Chairman Paul R. Correll, Easton, the *Atlantic Medical Journal* states, important work has been started. A coalition of the state medical society with the state hospital association was consummated which will unite the organizations in an effort to influence public opinion on various candidates before the April 24 primaries with regard to the "healing cults."——The Allegheny County Medical Society has arranged for a third series of graduate courses for its members.——The University of Pittsburgh School of Medicine recently completed an extension course of seven lectures delivered before members of the Butler County Medical Society.——The Westmoreland County Medical Society will hold its seventh annual clinic and banquet, April 27, Greensburg; Drs. William J. Mayo, Rochester, Minn., Harlow Brooks, New York, and John B. Deaver, Philadelphia, will conduct dry clinics.

Philadelphia

Hospital News.—The Episcopal Hospital will celebrate its seventy-fifth anniversary, May 3. All former residents and officers of the staff as well as the present members are invited. There will probably be clinics in the morning, entertainment in the afternoon and a dinner in the evening, although the details have not yet been announced.

Changes in City Hospitals—Some Employees Dismissed.—The director of the department of public health has announced certain changes as part of a plan of reorganization. The bureau of hospitals has been divided into three bureaus, each made directly responsible to the director. Dr. Joseph C. Doane is to remain in charge of the Philadelphia Hospital but is relieved of the Municipal Hospital for Contagious Diseases and his responsibility for the Byberry Hospital for Mental Diseases, for each of which a separate bureau has been established. The director of the health department announced also, it is reported, that he had dismissed some aliens who held positions in the city hospitals and filled their positions with residents who are American citizens.

Society News.—The Philadelphia Laryngological Society will give a dinner in honor of Sir St. Clair Thomson, April 24, at the Hotel Rittenhouse, preceding his address before the society on "Technic for Operating on Intrinsic Cancer of Larynx by Laringofissure."——The annual reunion and smoker of the medical alumni of the University of Pennsylvania will be held at Weightman Hall, June 16, 8 p. m.——The April 25 meeting of the Philadelphia County Medical Society will be "branch society night." Among others, Dr. Andrew A. Cairns, director of public health, will give a brief announcement of the diphtheria prevention program of the department, and Dr. Walter S. Cornell, director of medical inspection of public schools and chairman of the committee on branch societies, will speak on "Diphtheria Immunization of 152,000 Public School Children and Results." The speakers from the branches will be Drs. John C. Hirst, II, Louis D. Englerth, Sigmund S. Greenbaum and Benjamin Ulanski.

RHODE ISLAND

"The Cradle of American Medicine."—The Newport County Medical Society held its annual meeting, March 29, in the Redwood Library, Newport, a city rich in medical history. The president of the society, Dr. William S. Sherman, referred to the county as "the cradle of American medicine." "Here," he said, "Robert Jefferey was authorized to exercise the function of chirurgie in 1641 and John Cranston was 'by this court styled and recorded Doctor of Phissicke and Chirurgery in 1664.'" The first course of medical lectures in the colonies is said to have been delivered here by William Hunter in 1756, where one of the earliest boards of health was established in 1798. The library, in which the society held its annual meeting, was established in 1747. Following the election of officers, the banquet was attended by officers of the state medical society and by medical officers of the navy stationed at Newport and Fort Adams. Dr. Douglas P. A. Jacoby, Newport, was elected president for the ensuing year. The secretary is Dr. Alexander Chace Sanford.

SOUTH CAROLINA

State Medical Meeting.—Although the program was received too late to announce the meeting of the South Carolina Medical Association at Columbia, April 17-19, it has an historical interest. There was a symposium on obstetrics, and papers were read on tuberculosis, syphilis, gallbladder disease, purpura hemorrhagica, autopsies, spinal cord tumors, goiter and other timely subjects. Dr. William L. A. Wellbrook, Rochester, Minn., read a paper on "Early Gastric Cancer." The South Carolina Society for Mental Hygiene, meeting simultaneously, was addressed by Dr. Joseph Akerman, Augusta, Ga., on "Prenatal Care," and by Dr. Harvie de J. Coghill, Richmond, Va., on "The Child Guidance Clinic, a Recent Psychiatric Development." The South Carolina

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Public Health Association held joint meetings with the state medical association and the society for mental hygiene and, among others, Dr. George H. Preston, Baltimore, secretary, Mental Hygiene Society of Maryland, spoke on "Present Trend of Psychiatry" and Dr. Valeria H. Parker, American Social Hygiene Association, New York, gave an address. The women's auxiliary of the state medical society held its annual meeting, April 18, and was addressed, among others, by Dr. John Lovett Morse, Boston. There was the annual golf tournament with prizes, and clinics or clinicopathologic conferences were held each day. The clinic on Thursday was given by Dr. Joseph E. Moore of Baltimore.

TENNESSEE

Health at Nashville.—Telegraphic reports to the U. S. Department of Commerce from sixty-eight cities with a total population of about 30 million, for the week ending April 7, indicate that the highest mortality rate (24.1) was for Nashville, and that the mortality rate for the group of cities as a whole was 15. The mortality rate for Nashville for the corresponding week last year was 18.2, and for the group of cities, 13.7.

Society News.—The West Tennessee Medical Society will meet at Jackson, May 17-18, under the presidency of Dr. William C. Duckworth. The secretary, Dr. Isaac A. McSwain, Paris, has held that position for thirty-seven years; he has been elected for life.——The National Child Labor Committee will hold its twenty-fourth annual meeting at Memphis, May 4. Among others, Dr. Alice Hamilton, associate professor, industrial medicine Medical School of Harvard University, will speak on "Industry and the Youthful Workers," and Dr. Richard A. Bolt, University of California, Berkeley, on "Health Hazards of Child Labor."

Meeting of Hospital Social Workers.—The annual meeting of the American Association of Hospital Social Workers will be in Memphis, April 30-May 8. Round tables will characterize the program, Tuesday and Wednesday; among the subjects for these general discussions will be "Responsibility of the Medical Social Worker to Nonresident Patients"; "Hospital Social Worker as a Teacher of the Student Nurse," and "Social Work in the U. S. Veterans' Bureau." Other sessions will be addressed by Drs. Neuton S. Stern, Memphis, on "Interrelation of Medical and Social Treatment of Disease," and Lawson G. Lowrey, New York, on "Mental Hygiene in Physical Illness"; John Lucius McGehee, Jr., Memphis, will speak at the annual luncheon, Saturday. There will be a joint session with the American Association of Psychiatric Social Workers. All meetings will be held at the First Methodist Church.

State Medical Election.—At the annual meeting of the Tennessee Medical Association, Nashville, April 12, Dr. Kirby S. Howlett, a general practitioner of Franklin, was elected president; Drs. James R. Bone, Lebanon, James T. Leeper, Lenoir City, and James W. McClaran, Jackson, vice presidents; Dr. Harrison H. Shoulders, Nashville, secretary-editor, reelected; Dr. Charles N. Cowden, Nashville, speaker of the house of delegates, and Drs. Hiram B. Everett, Memphis, and Edward C. Ellett, Memphis, delegate and alternate, respectively, to the American Medical Association. The next annual meeting will be at Jackson. The newly elected president, in expressing his gratitude, considered the honor not personal but a recognition of those men whom he believed to fill an important place in the medical profession —the general practitioners. Dr. Howlett is a graduate of Vanderbilt University and has been a practitioner for about forty-five years. He has been a member of the Tennessee Medical Association for twenty-eight years and has served as president of the Middle Tennessee Medical Association and as secretary of the Williamson County Medical Society.

WEST VIRGINIA

State Medical Meeting at Fairmont.—The sixty-first annual meeting of the West Virginia State Medical Association will be held at Fairmont, May 22-24, in which city the association was formed in April, 1867. At that time, the Baltimore and Ohio Railroad contributed free tickets to the members attending the meeting. The Marion County Medical Society, the state medical journal says, expects to outdo in hospitality the benevolence of the Baltimore and Ohio in those days. The guest speakers this year will be Drs. Elliott P. Joslin, Boston; Willis C. Campbell, Memphis, Tenn.; Curtis F. Burnam, Baltimore; James F. Mitchell, Washington, D. C.; Fred W. Rankin, Mayo Clinic, Rochester, Minn.; Albert H. Freiberg, Cincinnati; Jacob J. Singer and John R. Caulk, St. Louis; Dean Lewis, Baltimore; William B. Porter, Roanoke, Va., and Howard Lilienthal, New York. There will be scientific and commercial exhibits, and arrangements are being made to secure the use of the golf course of the Fairmont Country Club for the usual convention tournament with its silver cup for the winner. The banquet and dance will be at the Elks Club, May 23, for which the local county society has secured "entertainers extraordinary." All the meetings will be in the Y. M. C. A. building, which is about five minutes' walk from convention headquarters in the Fairmont Hotel.

GENERAL

Tuberculous Cattle Condemned in February.—Tuberculosis eradication work among the cattle of this country has progressed until now more than 20 million cattle are under supervision. During February more than 740,000 cattle were tested, and nearly 18,000 reacted and were condemned.

Annual Hospital Convention.—The American Protestant Hospital Association will hold its annual meeting, San Francisco, August 3-6, with headquarters at the Clift Hotel. The guest speakers at the banquet will be Dr. Walter B. Coffey, San Francisco, chief surgeon, Southern Pacific Railroad Company, who will speak on the high cost of illness; Dr. Joseph C. Doane, Philadelphia, president of the American Hospital Association, and Dr. Malcolm T. MacEachern, Chicago, who will be guest of honor at the banquet. There will be round table discussions and stated speakers. The president of the association, Rev. H. L. Fritschel, Milwaukee, will preside.

Congress of Dermatology and Syphilology.—The eighth International Congress of Dermatology and Syphilology was to have been held in Copenhagen in 1915, but it was postponed on account of the World War. The Danish Dermatological Society considers it possible now to carry out the commission with which it was entrusted and has decided that the congress shall take place in 1930 in Copenhagen, which time, it is hoped, will be convenient to other nations. The Danish Dermatological Society, therefore, invites dermatologists and syphilologists in all countries to attend the congress, August 5-8, 1930, and requests them to support the congress with their scientific contributions. The Danish committee on organization will appreciate suggestions. The secretary general of the committee on organization is Dr. S. Lomholt, Raadhusplads 45, Copenhagen, Denmark.

American Otological Society.—The secretary general of the International Otological Congress, which meets in Copenhagen, July 29-August 1, desires to announce that the Danish Foreign Office will grant, free of charge, passport visés to all foreign members of the congress residing in countries in which visés are required. The treasury department will exempt each member from the custom examination on presentation of his certificate, and the Danish National Railways will grant a reduction of fare, so that members can purchase return tickets at half price, provided the entire trip is made over the same route. Hotel reservations can be made for only 300 physicians as the congress will be held at the height of the tourist season. It will be necessary, therefore, to refer some of the members to private places where excellent rooms can be had for about 6 kronen a day. Members are urgently requested to apply for their hotel reservations prior to June 15 directly to Bennett's Travel Office, Raadhuspladsen 47, Copenhagen V, to which organization the arrangements for accommodations has been delegated.

Society News.—The three national nursing organizations, the American Nurses' Association, the National League of Nursing Education and the National Organization of Public Health Nurses, will hold their biennial convention in Louisville, Ky., June 4-9. Among the reports to be considered will be that of the committee, which is conducting a five-year survey of the nursing profession, now in the second year of its work.——At the annual meeting of the Pacific Coast Surgical Association, Catalina Island, Calif., recently, Dr. Andrew S. Lobingier, Los Angeles, was elected president; Dr. George W. Swift, Seattle, and Dr. Andrew A. Matthews, Spokane, vice presidents, and Dr. Edward L. Gilcreest, San Francisco, secretary-treasurer.——The ninth annual conference of the American Federation of Organizations for the Hard of Hearing will be held at the Hotel Chase, St. Louis, June 18-22. The secretary of the federation is Miss Betty C. Wright, 1601 Thirty-Fifth Street, N. W., Washington, D. C. There will be a lip reading tournament, exhibits of each constituent body of the federation and prominent speakers.

News of Epidemics.—The public schools of Brodhead, Wis., were closed for ten days, April 2, on account of an epidemic of influenza and mumps.——Eleven cases of smallpox were reported from Springfield, Ill., April 4.——The epidemic of influenza at Gary, Ind., was reported, as on the decline, April 1.——The heaviest epidemic of measles in years was reported at Bucyrus, Ohio, during March; all parts of the city were affected.——Measles and scarlet fever were reported unusually prevalent in Newark, N. J., during March. The county isolation hospital was overcrowded; the number of cases, however, did not equal the outbreak reported during 1927.——The health commissioner of Ashland, Wis., March 30, ordered all amusement places in the city closed because of the prevalance of influenza.——About 100 cases of mumps were reported among the students at Indiana University, Bloomington, March 25.——Four cases of epidemic cerebrospinal meningitis were reported from the Great Lakes Naval Training Station, Illinois, March 29.——Smallpox was reported prevalent in several cities of Lake County, Ind.; there were about twelve cases in Hammond and a like number in Hobart, April 5.——An outbreak of influenza was reported at Mentone, Ind., April 5.——The U. S. naval transport *Chaumont* arrived at Manila, April 8, with four cases of cerebrospinal meningitis aboard.

International Congress on Occupational Diseases.—The fifth International Medical Congress of Industrial Accidents and Occupational Diseases will be held at Budapest, Hungary, September 2-8. Titles for papers will be received in Budapest until June 1. Those relating to industrial hygiene should be sent to Dr. Emery R. Hayhurst, joint chairman, Columbus, Ohio, and those relating to industrial accidents to Dr. Fred H. Albee, joint chairman, New York. Among those who will read papers from the United States will be Dr. Albee on "Traumatic Pseudo-Arthroses and Treatment by Automatic Machinery"; Dr. Hayhurst, "Large Group of Silicotics with Very Low Incidence of Tuberculosis"; Drs. Eugene L. Fisk, New York, "Periodic Health Examination in Industry"; Henry H. Kessler, Newark, "Medicolegal Aspects of Occupational Diseases"; Richard W. Corwin, Pueblo, Colo., "Sanitation, Noise and Psychology in Industrial Hospitals"; Raphael Lewy, New York, "Spinal Column in Reference to Trauma," and Richard Kovacs, "Physical Therapy in Traumatic Conditions." The consul general at New York will grant free visé of passports to physicians and their families going to the congress. A number have signed up for the "Study Tour" to the congress, sailing, August 16, from New York, visiting health resorts in central Europe and returning from Gibraltar, September 28. Physicians interested should communicate with Dr. Kovacs, secretary, 223 East Sixty-Eighth Street, New York.

Hearing on Income Tax Deductions.—At a hearing before the Senate Committee on Finance, April 11, the proposal for deductions of traveling expenses of physicians in attending medical meetings, was presented. Senator Robinson of Indiana appeared in support of his proposed amendment to the tax reduction bill, which would permit physicians to deduct the expenses of traveling to and from state and national medical meetings. Dr. William C. Woodward, Chicago, representing the American Medical Association, said that, at present, the medical profession is discriminated against in this matter. He referred to a ruling of the commissioner of internal revenue in 1922 making such expenses of physicians not deductible, and stated that the ruling was promulgated without either a hearing or an investigation. As an example, Dr. Woodward said that the man in the clothing business may travel anywhere to keep in touch with fashions and styles and deduct the expense from his gross income, and a chemist and a minister may deduct the cost of attending their professional meetings, but the physician who wishes to attend a medical meeting to keep pace with medical progress is not allowed to deduct the expense. Numerous questions were propounded to Senator Robinson and Dr. Woodward which indicated that, with the exception of Senator Reed Smoot of Utah, members of the committee were impressed with the fairness of the proposed amendment.

American Hospital in Constantinople.—A financial crisis seems imminent in the affairs of the American Hospital in Constantinople, which threatens to close unless funds are raised. An American committee has been appointed with headquarters in New York, under the auspices of the Near East Colleges Association, to endeavor to guarantee the minimum of $15,000 annually necessary to carry on the educational and community service of the hospital. Members of the hospital staff have volunteered to work for two months on half pay in the hope that the committee will be successful. The admiral of the U. S. Navy in those waters has arranged to have a naval medical officer assume the duties of medical director for a short time. The hospital was organized in 1912; it was closed during the World War and reestablished in 1920 with the cooperation of the American admiral, the consul general and the officers of the American Mission. It had a capacity of seventy-eight beds; serves American residents and the naval units, and examines emigrants for the United States. A training school for nurses was established with the assistance of the Red Cross; its graduates are in nearly every large city of the Balkans. The old German Hospital building was leased in 1925 to provide additional beds but the lease has almost expired, and the present circumstances will necessitate finding a less expensive plant. Turkey made an exception to its rule in 1927, granting the American physicians attached to the American Mission licenses to practice. There are said to be twenty Turkish girls in training in the nurses' school. There has been an annual deficit of from $25,000 to $50,000. The uncertainty of the postwar period complicated the administration but conditions have been stabilized. The hospital hopes to be able to continue its important work with the financial assistance of the public.

PORTO RICO

Medical Election.—The officers of the Porto Rico Medical Association, appointed for 1928, are Drs. Ramón M. Suárez, Santurce, president; Rafael López Nussa, Ponce, vice president; Manuel Pavia Fernández, San Juan, secretary, and Manuel E. Pujadas Díaz, Santurce, treasurer.

FOREIGN

The Plague Situation.—Plague is more prevalent in Upper Burma, India, than usual. According to *Epidemiologic Reports* of the Health Section of the League of Nations, there were 715 deaths in the first three weeks of January. The plague incidence in India as a whole, during this time, was higher than during the same period of the previous year. However, the situation in the Punjab remains favorable; the incidence has been equally low only once before (1922). Hyderabad city has had a more severe outbreak than for many years. In the Bombay Deccan plague epidemics have persisted longer this year; normally, epidemics reach their height in September or October. There were fifteen cases reported at Suez, Egypt, between January 1 and February 24. The outbreak at Aden amounted to 382 cases up to March 3 with 218 deaths.

Society News.—The French Society of Ophthalmology will hold its forty-first congress at the Faculty of Medicine of Paris, May 14-16.——Die Gesellschaft für Verdauungs- und Stoffwechselkrankheiten will convene in Amsterdam, September 12-14. The chief topics on the program are physiology and pathology of hunger, with papers by J. Hudig, Apeldoorn; van Leersum, Amsterdam; Morgulis, America, and Determann, Wiesbaden; relations between the digestive tract and blood diseases, with papers by Morawitz, Leipzig; Nordmann, Berlin; Schottmüller, Hamburg, and Schuffner, Amsterdam; diagnostic and therapeutic errors with respect to diseases of the digestive tract with papers by von Bergmann, Berlin; Kuttner, Berlin; von Haberer, Düsseldorf, and Berg, Berlin; importance of raw foods, with papers by Friedberger, Berlin; Scheunert, Dresden, and Stepp, Breslau. The general secretary is Professor von den Velden, Bamberger Str. 49, Berlin W. 30.——The government of the Irish Free State, with the support of the University of Dublin, the National University of Ireland, the Royal College of Physicians and Surgeons and the Apothecaries' Hall of Ireland, have invited delegates from Great Britain, Ireland, France, Belgium, Italy, United States and other countries to the Royal Institute of Public Health to be held in Dublin, August 15-20.

CORRECTIONS

Whitman's Orthopedic Surgery.—In the review of A Treatise on Orthopaedic Surgery, by Whitman, published in THE JOURNAL, April 7, p. 1147, the price is erroneously stated as $9. The price should have been $10.

"The Crystalline Lens System."—Dr. R. A. Yeld writes that the first clause of the last sentence in his communication (THE JOURNAL, March 31) should have read "Plate XXVII is a beautiful demonstration of the zonular fibers." As printed, the reference was to plate XVII. Dr. Yeld adds: "This plate seemed to be the best, but plates XXXIX and XL are also remarkable."

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Foreign Letters

LONDON

(From Our Regular Correspondent)

March 24, 1928.

The Exclusion of Women Students from Medical Schools

During the war, when the demands of the army produced a shortage of physicians in the country, a great increase of women medical students occurred and they were admitted to medical schools which did not take them previously. The opposite movement is now in force and certain hospitals are going back to their prewar practice of admitting male students only. One reason given for this change is that men athletes who wish to become physicians will not go to a hospital which admits women students and the hospitals are keen on excelling in athletics. Another reason, given by an official who has spent his career in academic life, is that the average man student has a great deal more modesty or diffidence than the average woman student and objects to studying medicine in the company of women. Westminster Hospital has decided to take no more women students and it is thought that Charing Cross will follow. The result will be a tendency to overcrowd the London School of Medicine for Women and the Royal Free Hospital, to which it is attached. At present this school educates about half the women who take up medicine as a career. Many women prefer the system of coeducation at the other schools but most men resent it. An issue that is almost unprecedented has thus been raised in the University of London which is connected in many ways with the medical schools of the metropolis. One of its statutes runs: "No disability shall be imposed on the ground of sex." However, the medical schools have complete discretion as to whether they will take women as students or not. A resolution calling for the setting up of a committee to inquire into the banning of women students at hospital medical schools is to be considered at the next meeting of the senate of London University.

The Lead Treatment of Cancer

The treatment of cancer by colloidal lead, termed "chorio-trope" by its introducer, Prof. Blair Bell of Liverpool, has attracted a good deal of attention in this and other countries. In view of favorable reports issued by the Liverpool School of Medicine, the Cancer Research Committee of the General Hospital, Birmingham, decided to investigate the treatment and has now issued its report. Thirty-four cases were treated by the committee during the past year, nineteen in women and fifteen in men. The method of lead therapy varied: twenty-three cases were treated with colloidal lead supplied by Prof. Blair Bell, eight with lead glycine and two with both preparations. One patient was given an injection of colloidal lead prepared with gum arabic. The death of a patient after injection of lead glycine in the outpatient room led to the abandonment of ambulatory treatment. After the patient has been admitted to the hospital the urine is carefully examined and the blood urea and hemoglobin are estimated before each injection. Where jaundice followed a previous injection, the van den Bergh test is carried out before resuming treatment. But even the most elaborate precautions do not obviate risk. The usual practice is to wait ten days before repeating an injection, but the interval varies with the degree of the reaction and the general condition of the patient. As a rule, patients in good condition remain in the hospital five or six weeks, during which three or four large doses of lead are given. Later they return for smaller injections. Severe lead poisoning has followed the attempts to carry out an intensive course, so that it is proposed to try the effects of smaller and more frequent injections. The general results obtained at Birmingham were as follows: improved, nine; uninfluenced, eight; deaths from disease, seven, and from the treatment, 3. The remaining cases consist of recent ones and those in which the treatment was abandoned either against advice or because of complications. In two cases the improvement was "marked," which means considerable reduction in the size of the primary growth or its metastases with coincident improvement of the general condition. No particular type of case was benefited exclusively by the treatment; the result appeared to vary with the individual patient rather than with the character or situation of the growth. Nearly all the cases treated were advanced. In a considerable proportion of the cases in which the primary growth progressed uninfluenced there was a remarkable absence of local metastases or widespread dissemination. It is a striking fact that with one exception all the patients who showed improvement had had other treatment, three by radium and six by operations. Only very small quantities of lead were found in the tumors examined. This, the committee think renders Bell's hypothesis that cancer cells have a special affinity for lead very doubtful. It appears that the action of the lead must be indirect, perhaps by stimulating the production of some active body in the serum liver or elsewhere. This would be in harmony with the natural resistance to the disease occasionally encountered. The conclusion from this investigation is that the main therapeutic value of lead lies in restraining metastases or destroying small and recent deposits. With one exception (sarcoma of bone) no material benefit was seen in a patient with a large malignant mass.

Asthma Research

A number of well known persons who suffer from asthma called a meeting which appointed an asthma research council for the purpose of furthering investigation of the disease. The movement was an entirely new departure in this country, as the initiative in the investigation of disease heretofore has always been taken by the medical profession. Here laymen took the matter into their own hands, evidently thinking that the profession required prodding from the outside. They have made an appeal for financial support and are endeavoring to raise $250,000. They have also appointed a medical advisory committee consisting of prominent physicians interested in the subject, including Dr. A. F. Hurst of Guy's Hospital, who himself suffers from asthma and is the leading authority on the subject, and Dr. H. W. Barber, dermatologist to Guy's Hospital. The following preliminary suggestions have been made: 1. The formation of an asthma clinic at one or more hospitals for the investigation of the asthma-hay-fever-urticaria syndrome. 2. An investigation of the phenomena of sensitization in relation to asthma. 3. An investigation into the nature of the asthmatic attack from the point of view of physiology. 4. An investigation of the relation of asthma to general respiratory diseases. 5. An investigation of the family histories in asthmatic and allied conditions. 6. An investigation of alleged "cures." This would include the continuation of the work of the British and American medical associations in investigating secret remedies. 7. The provision of research scholarships and grants in aid of such investigations and for others being carried out or projected by general practitioners, medical centers or research institutions, throughout the empire, which are approved by the medical advisory committee. 8. The appointment from time to time of traveling investigators to visit foreign clinics where investigations into asthma and allied conditions are being undertaken. 9. The publication of any useful results obtained.

The New Radiologic Department of the Royal Infirmary, Edinburgh

The new radiologic department of the Royal Infirmary, Edinburgh, illustrates the increased attention that is being given to radiology in this country. The building is 170 feet long and 60 feet broad and consists of a basement and two floors, with a flat roof. The rooms in which the roentgen rays are generated have been carefully designed for the protection of the workers in the following manner: The walls have been built of concrete slabs composed of rough sand, 1 part; engine ashes, 2 parts; portland cement, 1 part; barium sulphate, 3 parts. When built in the walls the slabs were coated on each side with a layer of barium plaster five-eighths inch thick. The walls and ceilings were also coated with this plaster. All screening and the radiographic and treatment rooms were thus protected. The finished walls give protection equivalent to 5 mm. thickness of metallic lead. The doors are protected with 6 pounds of lead on both sides. The radiographic and screening rooms have protected cubicles built with the same barium slabs. The meters and patients are observed through windows glazed with two thicknesses of "Super Protex" lead glass, giving protection equal to 5 mm. of lead. All rotating machinery has been placed in the basement and other arrangements made for the avoidance of noise and also of corona discharges. All the controls are in a completely protected cubicle in which the operator is never exposed to the roentgen rays. In the large operators' room the workers are completely protected from radiation by the barium walls and the lead doors. The switchboards are at the sides of lead glass windows, through which the patients are watched.

PARIS

(From Our Regular Correspondent)

March 14, 1928.

"The Fifth Disease"

The peculiar name "the fifth disease" is beginning to be applied to a disorder, probably infectious since it is contagious, which manifests itself by a polymorphous erythema, unaccompanied by fever or general symptoms, and which must be distinguished from measles, rubella, and other similar conditions with which it has certain points of resemblance, although it seems absolutely distinct. Several cases of the disease have been reported in the hospitals and among the general population. The question of the identity of the disease is purely of academic interest, as the disease itself does not present any grave features, those affected recovering spontaneously in a few days. Nevertheless, the subject has awakened the interest of the Société médicale des hôpitaux de la Société de pédiatrie, which considers the disease a strange problem. Dr. Cathala, obstetrician to the hospitals of Paris, has reported an outbreak confined to a single family. The family contained five children, which, one after another, presented an erythema of morbilliform type. The onset in each case had been almost without premonitory signs, and was revealed by sudden redness of the face (the ear lobes), which extended quickly to the trunk, predominating on the extensor surface of the limbs and frankly more apparent at the level of the uncovered parts, without general symptoms. Soon the erythema of typical morbilliform aspect changed its appearance greatly, so that the elements of the erythema became transformed and took on the following aspect: the center of each element (from 0.5 to 1 cm. in diameter) became depressed and blanched, while the rest assumed a rosy hue and a characteristic circinate appearance. Another peculiar fact was that the eruption was not stable, disappearing in a moment completely, to reappear a few minutes or a few seconds later, called forth by the cold, a bath, friction, and the like. It is doubtless a matter of a simple revivification and not of successive eruptions. There are no clinical symptoms associated with the eruption; no discomfort, no fever, the mucosa is intact, the evolution lasts from four to twelve days. However, an examination of the blood revealed certain changes: mononucleosis of from 40 to 50 per cent, and marked eosinophilia (8, 7, 5 and 10), the highest proportion occurring near the onset, and these figures were essentially the same in all five patients. M. Cathala was in doubt as to the clinical diagnosis, though he suspected at first a toxic or alimentary erythema. These five children of one family had not received medical treatment, nor had they eaten anything that could have induced an intoxication. It was evidently neither measles nor rubella. It could not be a manifestation of rubella, for that disappears rapidly and there is no reappearance; nor was there any adenopathy associated with the eruption. As one of the children had had measles previously and another rubella, there was only one diagnosis left, and that Cathala accepted; namely, "the fifth disease." M. Hallé recounted to the society a similar case which he observed before the war in a girls' boarding school and which he also diagnosed as "the fifth disease." It is a peculiar fact that most of the patients with "the fifth disease" have been previously treated for rubella, measles or scarlet fever.

Shell-Fish in Relation to Typhoid

Before the Société de sciences médicales of Montpellier, MM. Bertin-Sans and Carrieu presented recently a series of statistics bearing on the typhoid infections observed in Montpellier during 1926. There were 164 cases, eighty-four of which, or more than 50 per cent, were attributed by the attending physicians to the ingestion of shell-fish, mussels, oysters, and the like. The mortality was higher in the cases of that origin. It is a difficult matter to combat this type of infection for the reason that it is legally impossible to prohibit the sale of these products. The regulations that have been adopted—even the most recent—apply only to the supervision of oyster beds. But oysters, owing to a peculiar epidemic among them, have become scarce and expensive. For reasons of economy, therefore, the people have taken up with other varieties of shell-fish, and have had recourse to oysters gathered by dragging, which makes supervision next to impossible. The only remedy appears to be to educate the public on the subject, and to inspire a wholesome fear of such uncontrolled natural products.

BUCHAREST

(From Our Regular Correspondent)

March 20, 1928.

A New Bill Dealing with the Fight Against Venereal Diseases

The council of ministers has appointed a commission, consisting of Professors Anghelovici, Nicolau and Mezinescu, to elaborate a bill in such time as will enable it to become a law before the summer vacation. The draft of the bill has been shown to the administrative board of the medical association and has been unanimously approved. The bill provides that every venereal patient must consult a physician and follow his instructions. The state will establish public institutions where patients with venereal disease may be treated free of charge. State laboratories will be obliged to carry out the necessary tests, also free of charge. Physicians must keep special ledgers and issue to each patient a special form on which will be noted the day of his beginning treatment, his condition and the treatments prescribed. When the period of infection is at an end the physician will so state on the form and will affix his signature. Persons with syphilis who suffer from infectious lesions must be reported to the medical authorities. The medical officer will pay

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special attention to these patients. If they do not offer sufficient guarantee that they are carrying out the treatment prescribed, they may be removed to a hospital, if necessary by force. Any person who knows that he or she suffers from an infectious stage of a venereal disease and does not subject himself or herself to medical treatment is liable to a penalty of from one to twelve months' imprisonment. The infection of another person with a venereal disease is to be severely punished according to the provisions of the penal code. A woman who is aware that she is suffering from syphilis must not suckle an infant. Similarly, parents who know that their infant suffers from syphilis must not employ a healthy wetnurse. In both cases, offenders are liable to a penalty of from one to six months' imprisonment and a fine of from 1,000 to 10,000 lei. Persons who, by reason of their occupations are in a position to acquire or desseminate venereal diseases are to be put under medical control. Such persons are: the staffs of restaurants, drinking saloons, music halls and coffee houses; barbers, manicurists, servants in bathing establishments, masseurs and masseuses. Nurses also are to be placed under medical control, as are persons employed in factories where the danger of extragenital infection exists, such as glass factories and cigaret factories. This provision applies, furthermore, to persons whose occupations require them to spend much time in places of entertainment, such as female singers or danseuses in vaudeville shows and cabarets, and women who behave provocatively and offer themselves in public places, such as some flower girls and candy sellers. The persons enumerated will receive a so-called health form on which the results of periodic medical examinations must be recorded. Neglect to appear for the periodic examination involves a fine of from 500 to 5,000 lei.

The scheme puts a stop to brothels or similar establishments. Likewise it forbids the keeping of places of rendezvous and "hôtels garnis." It forbids, under a heavy penalty, even the giving of the opportunity for couples to meet in private houses or hotels, without their filling out a form giving exact personal data. Offenders are liable to a fine of from 5,000 to 10,000 lei; and for the repetition of the offense the penalty is from one to twelve months' imprisonment.

After the promulgation of the new law the brothels will be allowed six months in which to arrange for closure. New licenses will not be issued.

Any one enticing another person into sexual intercourse or promoting it is liable to a fine of from 10 to 50,000 lei and from one to three years' imprisonment. Newspapers are forbidden to publish articles or advertisements enticing women into prostitution; and books dealing with sexual life may be published only if the permission of the supreme health council has first been given.

The bill provides for the establishment of antivenereal centers in cities and towns. In villages, treatment and control will be entrusted to the parish physicians. The last part of the bill deals with the penalties to physicians who do not fulfil or negligently perform their duties in regard to the carrying out of the provisions of the law.

Is There a Plethora of Physicians in Roumania?

In recent times the question of a plethora of physicians in Roumania has been discussed at meetings of medical societies. The facts are as follows: The population of Roumania is nearly 18 million. There are in the land from 5,000 to 6,000 physicians; accordingly, the number of physicians in relation to population is 1:3,000. The trouble is that while in the towns and cities the ratio is 1:500 or 600, there are country districts, with a population of about 10,000 which have only one physician. The salary paid by the state to rural practitioners is not sufficient to attract young physicians. Moreover, in the country, private practice is very small, as the inhabitants of the villages, almost all of whom are agricultural laborers, are accustomed to have free medical attendance. These conditions are only transitional. There is a good prospect of the peasants becoming better off in a few years, when they have obtained agricultural implements and machinery wherewith to secure a greater yield from their farms. Another factor conducive to the improvement of the financial position of the village physician is the enlightenment of the village people in matters of health. The supreme health board has organized weekly visits to hundreds of villages in which participate expert health officials equipped with cinema, roentgen ray, and hygienic laboratory apparatus, all mounted in motor cars. These officials give lectures and carry out analyses. The instruction of the peasants in matters of health will result in their having recourse, when ill, to the physician instead of to aged women, barbers and other quacks.

The Numerus Clausus Amendment Bill in Hungary

The debate on the numerus clausus (percentage norm) amendment bill, which deals with the number of Jews admitted to the universities, lasted a fortnight and was concluded, February 24. The bill was passed in the lower house of parliament. The numerus clausus act, which has been in force since 1920, has been the object of attacks ever since the joint conference of the committee of the Jewish board of deputies (in England). Moreover, the Anglo-Jewish Association brought this question before the Council of the League of Nations. The Hungarian government pledged itself in December, 1925, to repeal this measure as soon as the situation should allow it to do so. By the provisions of the amendment bill the anti-Jewish bias of the original act is to be eliminated.

Subphrenic Abscesses

At the Jassy Medical Society, Dr. Marinescu recently exhibited a few patients who had had subphrenic abscesses. The origin of the disorder, as far as it could be ascertained, was in the respective cases: diseased appendix, disease of the stomach, duodenal ulcer, and tuberculous ulcer of the ascending colon. With one exception, all of the abscesses occurred on the right side. In three cases they formed between the liver and the diaphragm and in the others between the spleen, colon and diaphragm. The formation of gas was typical. The diagnosis was a difficult matter. The recognized treatment is operative, and although the prognosis given in textbooks is bad, only one of Marinescu's patients died.

Callus Formation in the Fractures of Osteomalacia

Dr. Hajós, a Banatian surgeon, observed two cases of fractures in patients suffering from osteomalacia. Roentgenograms were made in both cases several months after the injury, but no signs of callus formation were seen. In one case there was a faint shadow round a fracture of the bones of the forearm, where some degree of union seemed to have taken place. In the other case the fragments were not in apposition, and the picture taken five months after the injury showed absolutely no evidence of repair. Dr. Hajós thinks that the reason that in one case there seemed to be formation of a functional callus, but without the presence of lime salts, while in the other there were absolutely no traces of a callus, is that the osteomalacia in the former case had not advanced as far as in the latter. It is well known that, the further advanced, the less likely is repair to take place. These observations also show that the roentgen rays afford an effective means of gaging the stage to which the process has advanced. In the first case the bone presented a spotted or marbled appearance, while in the other it was impossible to detect any bone structure.

RIO DE JANEIRO

(From Our Regular Correspondent)

March 15, 1928.

Blood Transfusion

In one of the branches of the Bureau for the Prophylaxis of Venereal Diseases, Dr. Heitor Santos, surgeon of the Public Assistance, gave a practical demonstration of the modification which he has made in Becart's syringe for the transfusion of whole blood. This improvement consists in a new attachment in the plunger.

Dental Clinics

Commemorating the feast-day of St. Apollonia, patron saint of dentists, the dental clinics of the São Paulo public schools, which number about twenty-three, will be opened on this day. These clinics, under the direction of Dr. Antonio Campos de Oliveira, dental inspector of schools, have been serving, in the majority of cases, the poor children attending the schools of the city of São Paulo, and have also served as models to clinics that have been established in several other states.

Medical Meetings in Rio de Janeiro

Preparations are continuing for the medical meetings to be held in Rio de Janeiro, June 15, 16, 17, 18 and 19.

Teaching Hospital

The "Teaching Hospital" is an addition to the new School of Medicine of São Paulo. The hospital will be begun during the current year and, when completed, will occupy a great extension of nine blocks. The hospital building and the two laboratories are united by a 200 foot cement tunnel and are separated only by a large avenue, which runs the length of the grounds. The hospital will have a special entrance for ambulances, which will deposit their patients in a large interior vestibule protected from inclement weather. A tower will be installed in the central part of the building and a chapel will be erected there for religious services. The laboratories will be built in the rear section, constituting a polyclinic for the School of Medicine. The polyclinic will be in direct communication with the central administration and will distribute the patients to the eight different pavilions. In each of these there will be two complete clinics, perfectly equipped so that they may fulfil the purposes of treatment and teaching. In each pavilion a waiting room will receive the patients, distributing them to the different clinics, each entrance and exit being perfectly arranged. Each clinic will be able to accommodate every hour from thirty to fifty patients. Each clinic will have about the following equipment: a small laboratory, an operating room, one hall for students and another for nurses, one sterilizing room, three to five examination rooms, hall for the assistants, professors, secretaries and halls where clinical demonstrations will be held for the benefit of the students.

A Case of Intoxication Due to Calomel

Dr. Helion Povoa has communicated to the Society of Medicine and Surgery of Rio de Janeiro a case of intoxication due to calomel. A patient suffering from disease of the gallbladder took by the prescription of a well known physician a laxative dose of mild mercurous chloride and forty-eight hours later presented an acute case of hepatorenal injury: maximum icterus, hemorrhage, anuria and lastly a profound coma, in which state the author saw the patient. A urine analysis revealed casts. Despite the intensive treatment given by Dr. Carneiro Ayrosa and by the author, the patient died the same day she was transferred to the National Hospital. A necropsy performed by the author revealed injury to the kidneys and liver. An examination performed by Dr. Bittencourt showed mercury in the brain, liver and kidneys. Investigation proved that the druggist had not made a mistake nor had there been an attempt at voluntary poisoning. The intoxication was due entirely to the mild mercurous chloride.

BERLIN

(From Our Regular Correspondent)

March 17, 1928.

In Opposition to the Present-Day Dress of Women

Geheimrat Rubner has an article in the *Deutsche medizinische Wochenschrift* condemning the present-day dress of women. Alarming reports are coming from all directions, but chiefly from the northern countries, in regard to the disastrous hygienic effects of the scant attire of women. Rubner feels that it is his duty to call attention to the following facts: The mortality of women belonging to the 20 to 26 age group is increasing. Foreign surgeons have reported several cases of severe frostbite necessitating the amputation of toes and, in a few instances, of one or both feet. The light clothing and the resulting chilling of the body are in themselves sufficient to cause loss of body weight and to produce the much affected slender figure. If these youthful forms, which are nothing but skin and bones, were clothed in rags, everybody would be shocked at the terrible social conditions. He consoles his readers with the conviction that the peak of the epidemic, for that is what the present mode of dress amounts to, has been passed. There are doubtless millions of women who do not approve of the present exposure of their bodies and long to be released from the bondage but cannot resist the urge of style. He gives assurance that the style will change; for the industrial dictators of fashions must constantly find something new, and dresses will have to be longer for the reason that they can scarcely be shorter.

Rubner declares that the violent methods resorted to in order to reduce often bring impairment to the cell structures. A marked loss of proteins may accompany the loss of fat and thus cause a weakening of the body forces. Women who resort to unsuitable means of reducing their weight often find that, with the reduction, weakening of the musculature has been brought about. They fail utterly in their attempt to give a masculine appearance to their figure, which is commonly the purpose they have in view. Whereas in youth the process of increasing and reducing weight goes on without the formation of wrinkles, the skin is later no longer so elastic as to adapt itself by contraction to the loss of adipose tissue; hence, the premature manifestations of age in the skin of elderly women who reduce unwisely.

The clothing of women weighed formerly (including shoes) from 2.5 to 3 kilograms, leaving out of account the heavier clothing of winter and the light clothing of midsummer. Those figures have long since been left behind. In the mode of dress of women in general, the variation affects more the underclothing than the outer garments; for it is the general endeavor of all classes at present to avoid, as far as possible, differences in clothing that betray the nature of their employment or occupation.

Rubner sets up two series of figures, one for the clothing of midsummer, with an average weight of from 915 to 955 Gm., and another for the clothing of winter with an average weight of 2,165 Gm. According to his researches, the weight of the clothing does not influence its warmth-giving capacity so much as its air content does, which depends on the size and the number of interstices containing "dead air" (air not in motion). Without doubt, with the modern style of dress, greater warmth would be procured if the smooth weaves, such as batiste, were replaced by softer

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dress material, such as tricot. He emphasized, too, that by the use of several layers of clothing an increase in the amount of dead air space can be effected. Even with the present abbreviated style of dress, approximately the same degree of warmth as with other modes could be obtained if women would wear in winter a union suit of washable material, a slip-over of pure wool, an underskirt of artificial silk, woolen stockings, a winter dress with long sleeves, and woolen overstockings. But most women and girls in the large cities no longer wear such things. In general, in the fall and spring, but also, to a great extent, in winter, the body is not kept sufficiently warm, in spite of suitable outercoats. There is a tendency to wear summer clothing even on chilly days, and as nearly half of the body is almost bare, the legs being inadequately protected by silk gauze stockings, the average woman is not adequately protected against the inclement days of summer. This explains the fact that ever new styles of underclothing are thrown on the market. Unfortunately, some younger persons dispense entirely with an undergarment, or, if a union suit is worn, the upper portion has been gradually pared away until there is little left of it. Thus the outergarment, which is never washed, serves, at the same time, as the direct covering for the skin. In general, Rubner regards the union suit as a very impracticable article of clothing, since a fresh garment must be taken though only one part is soiled. But reduction of the upper portion to a mere band, as is nowadays frequently the case, is an incomprehensible retrograde movement, from the standpoint of body cleanliness. It is not the province of the outer garment to take up the effluvia of the body. Printed goods is not suitable as a direct covering for the skin.

The footwear of women violates the well established rule of health that the feet should be kept warm. It is in principle opposed to all other hygienic needs. The three main requisites of modern shoewear for women seem to be that it shall be narrow, tight-fitting and as short as possible. The ankles have no support; the heels twist and turn; protection against the cold is not provided for, and the stocking is usually so thin and flimsy that it does not even protect the skin against the dust of the street. To be sure, the more prudent provide themselves in winter with high galoshes, sometimes fur-lined.

Finally, the hygienist directs his attack also against bobbed hair in general, and more particularly against that type of bob that appears to be affected by certain women, in order that they may be relieved of practically all care of their hair. Unfortunately, there is not always a perfect parallelism between bobbed hair and a clean scalp; or, again, how many exceedingly neat and punctilious maids cannot refrain from combing their hair even at the table!

It is often said of late that women are much more hardy than they formerly were. But the fact is overlooked that there are some persons who cannot be hardened; who are so susceptible to the cold that exposure causes an impairment of the blood. Fortunately, the health conditions at present are, in many respects, favorable, so that there are no epidemics of respiratory diseases. Why precisely the calves and the feet should be hardened is not so readily apparent. Whenever the weather changes for the worse, many women begin to complain that their legs are cold. That warmth of body is in women a pronounced need cannot be denied. Today, when the general cry is for rationalization in all things, inappropriate and inadequate clothing constitutes an economic evil. If, because of inadequate clothing, it becomes necessary to maintain a higher temperature in our homes, that is a useless waste of coal. Furthermore, the setting of the fashions is purely a business undertaking—an undertaking that flourishes at the expense of sound economics and a sensible mode of living.

Liver Therapy in Pernicious Anemia

Before the Berliner Verein für Innere Medizin, Prof. Victor Schilling, well known research worker on the blood, discussed recently the effects and prospects of liver therapy in pernicious anemia. In a series of 105 patients whom Professor Schilling treated in the I. Medizinische Universitäts-Klinik, he was able to verify the observations of Minot and Murphy and seemingly to cure ninety-nine patients and to improve the condition of the remaining six. Of the last mentioned, three have since died from other causes. The patients received daily up to 200 Gm. of liver, cooked as lightly as it was possible to get the patients to accept. It was not always easy for the patients to eat and digest the liver, because of gastric disturbances. There are now on the market a great number of liver preparations, such as liver powder and liver extracts. Nothing very definite is known as yet in regard to their relative therapeutic potency and the tolerance of patients for them. Professor Schilling prepared an extract himself that appeared to have a good effect. The gravest cases appear to react the best to liver therapy. The patients very soon take on a healthier color. The yellowish tinge disappears, and some get a rosy complexion. The tongue presents a normal appearance and digestion proceeds as in a healthy person. Even severe nervous disturbances retrogress gradually. Schilling reported that patients who previously had been able to take scarcely a step have, in some instances, ascended four flights of stairs without a cane, and stated that the typical picture of pernicious anemia had disappeared from the clinic since the introduction of liver therapy.

Do the patients receive with the liver a substance that serves as building material for red corpuscles, as, for example, arsenic and iron in the other, less grave types of anemia? Or does the liver ingested contain a substance with a biologic effect, which the body needs for the formation of red corpuscles and which it, under normal conditions, produces itself but is now unable to produce? It appears that the patient requires the liver diet for an indefinite period, although, to be sure, the amount may later be reduced. In cases in which the liver diet has been discarded, disturbances have quickly reappeared. For that reason, Professor Jungmann, who is an investigator in the same clinic, is inclined to regard the therapeutic principle of liver as a genuine hormone. He stated, during the general discussion, that he had been able to demonstrate that in pernicious anemia the original and fundamental disturbance was not the inability of the organism to produce an adequate number of red corpuscles but that the essential disorder was their immoderate destruction by the "reticulo-endothelial" cells, more particularly of the liver. The patient appears to retain the impaired or defective constitution even though he is made well by the ingestion of liver. And of late, several investigators have been inclined to regard certain chronic gastric and nervous disorders that occasionally precede by many decades an attack of pernicious anemia as forming part of the syndrome—even though they exist alone, in fact. Schilling goes so far as to consider the possibility of pernicious anemia without blood changes, after the manner of the well known type of scarlet fever without a skin eruption. These theories cannot be said to be at variance with the general character of a constitutional disease (conditioned possibly by a lack of building material). This view does not harmonize, to be sure, with the recent blood findings of Professor Schilling, who has observed, namely, peculiar rodlike bodies (Stäbchen) in the red corpuscles of patients with pernicious anemia, which he likens to Bartonia bodies. The question as to whether these rodlike bodies are living causative agents is as yet undetermined.

Marriages

CHARLES EARL KITCHENS, Texarkana, Texas, to Miss Edith Brevard Hayes of Nashville, Tenn., March 15.

CARL HENRY MATTHEY, Davenport, Iowa, to Miss Elsa Marie Mortimer of Baltimore, April 4.

WILLIAM D. SCHWARTZ, Portland, Ind., to Miss Goldie Lowman of Anderson, January 31.

DAVID L. HARNETT, Chicago Heights, Ill., to Miss Julia Jonas of Chicago, February 4.

WORTH EDWIN YANKEY, Atlanta, Ga., to Mrs. Frances Gray Gallogly, February 11.

Deaths

John Mathew Lilly ✠ Chicago; Northwestern University Medical School, Chicago, 1905; since 1920 associate professor of medicine, Loyola University School of Medicine; formerly clinical assistant, instructor and associate in medicine at his alma mater; attending physician to the Mercy and Cook County hospitals; aged 48; died, April 10, at the Colonial Hospital, Rochester, Minn., following an operation for brain tumor.

Leonard C. Borland ✠ Chicago; Rush Medical College, Chicago, 1887; emeritus professor of anatomy, Chicago College of Dental Surgery; formerly professor of physiology, neurology, anatomy and associate professor of neurology and gynecology, Chicago College of Medicine and Surgery; at one time professor of anatomy, University of Illinois College of Medicine; aged 65; died, March 27, of uremia and chronic nephritis.

Daniel Rolston Dunlop, Calgary, Alta., Canada; University of Toronto (Ont.) Faculty of Medicine, 1900; served with the Canadian Army during the World War; formerly on the staff of the Colonel Belcher Hospital; aged 56; died, Dec. 7, 1927, as the result of cerebral hemorrhage.

Thomas Edward Peery ✠ Bluefield, W. Va.; College of Physicians and Surgeons, Baltimore, 1895; member of the Medical Society of Virginia; formerly on the staff of the Bluefield Sanitarium; aged 54; died, March 26, of chronic nephritis, hypertension and cerebral softening.

Malcolm Daniel Smith, Prattville, Ala.; Medical Department of the University of the City of New York, 1891; member of the Medical Association of the State of Alabama; also a druggist; served during the World War; aged 60; died, March 23, of heart disease.

Charles Park Bowen ✠ Centerville, Iowa; Bellevue Hospital Medical College, New York, 1892; past president of the Appanoose County Medical Society; formerly on the staff of St. Joseph Hospital; aged 60; died, March 6, of septic myocarditis.

Margaret Stiles Halleck, Pacific Grove, Calif.; University of Buffalo School of Medicine, 1897; for fifteen years on the staff of the New York State Reformatory for Women, Bedford Hills, N. Y.; aged 61; died, March 28, of mitral insufficiency.

John M. Chambers, Independence, Ky.; College of Physicians and Surgeons, Homeopathic, Buffalo, 1859; formerly mayor and chief of police; at one time member of the state legislature; aged 94; died, March 19, of hypostatic pneumonia.

George Washington Merritt, San Francisco; University of California Medical School, San Francisco, 1882; member of the California Medical Association; formerly assistant in ophthalmology at his alma mater; aged 72; died, March 8.

Julia Bissell, Wellesley, Mass.; Woman's Medical College of Pennsylvania, Philadelphia, 1893; formerly on the staff of the Wiswall Sanatorium; aged 63; died, January 6, at the Newton (Mass.) Hospital, of cerebral hemorrhage.

Zenas Fearing, Jr., Elizabeth City, N. C.; University College of Medicine, Richmond, 1901; member of the Medical Society of the State of North Carolina; formerly mayor of Elizabeth City; aged 54; died, March 17.

George W. Stout, Ukiah, Calif.; American Medical College, St. Louis, 1883; on the staff of the Ukiah General Hospital; aged 70; died, March 19, as a result of cerebral hemorrhage suffered several months ago.

Adam Joseph Simpson ✠ Chester, Pa.; Gross Medical College, Denver, 1901; member of the American College of Physicians; aged 49; on the staff of the Chester Hospital, where he died, April 6, of heart disease.

William D. Meeks ✠ Massies Mill, Va.; College of Physicians and Surgeons, Baltimore, 1883; secretary and past president of the Nelson County Medical Society; aged 67; died, March 25, of chronic myocarditis.

Martin Joseph O'Neill, San Francisco; Medical College of Ohio, Cincinnati, 1887; ship surgeon on the *President Wilson;* aged 66; died, January 6, at the U. S. Marine Hospital number 19, of carcinoma of the liver.

John Charles Gallagher ✠ Shenandoah, Pa.; Medico-Chirurgical College of Philadelphia, 1908; formerly superintendent of the Locust Mountain State Hospital; aged 46; died, February 29, of chronic myocarditis.

Van Shears Deaton, Troy, Ohio; Cincinnati College of Medicine and Surgery, 1873; Civil War veteran; formerly mayor of Troy and member of the state legislature; aged 80; died, March 29, of heart disease.

James Warburton, Charlottetown, P.E.I., Canada; L.R.C.S., L.R.C.P., Edinburgh, Scotland, 1882; formerly mayor of Charlottetown; on the staff of the Prince Edward Island Hospital; aged 72; died recently.

Newton Holloway Chaffee, Chesterfield, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1892; aged 61; died, March 16, at the McKinley Hospital, Trenton, of carcinoma of the transverse colon.

Charles Newton Hahn ✠ Humansville, Mo.; University of Louisville (Ky.) School of Medicine, 1912; aged 45; died, March 17, at St. John's Hospital, Springfield, of diphtheria, complicated by encephalitis.

Lorenzo Dow Balliett, Atlantic City, N. J.; Hahnemann Medical College of Philadelphia, 1880; aged 81; died, April 1, at the Atlantic City Hospital, following an operation for carcinoma of the bladder.

Ardon Philo Hammond, Cleveland; Western Reserve University School of Medicine, Cleveland, 1904; formerly county coroner; aged 58; died, March 21, at his home in Cleveland Heights, of heart disease.

Ira N. Brainerd, Alma, Mich.; Columbus Medical College, 1881; formerly mayor of Alma; proprietor and medical superintendent of a hospital bearing his name; aged 77; died, March 14, of myocarditis.

Arthur J. Doty, Colman, S. D.; College of Physicians and Surgeons, Chicago, 1892; aged 63; died, March 29, at the Silver Cross Hospital, Joliet, Ill., of pneumonia, following an infection of the arm.

James Henry McCartney, Chungking, West China; Western Reserve University School of Medicine, Cleveland, 1890; formerly superintendent of the Chungking Men's Hospital; aged 59; died, March 20.

Warren Clark Patton, Cape Girardeau, Mo.; College of Physicians and Surgeons, Keokuk, Iowa, 1882; on the staff of St. Francis Hospital; aged 69; died, March 22, of myocarditis and nephritis.

Thomas Howard Hudson, Kansas City, Mo.; University of Louisville (Ky.) School of Medicine, 1877; Eclectic Medical Institute, Cincinnati, 1879; aged 80; died, March 27, of cerebral hemorrhage.

William Earl Garfield Mayes, Springfield, Ill.; Washington University School of Medicine, St. Louis, 1904; served during the World War; aged 46; died, March 14, of chronic nephritis and uremia.

Michael Freeman, Philadelphia; Medico-Chirurgical College of Philadelphia, 1911; served during the World War; aged 40; died, March 21, at the University Hospital, of miliary tuberculosis.

George Perren Soyer, Cleveland; Bellevue Hospital Medical College, New York, 1885; aged 66; died, suddenly, March 11, on the train while en route from St. Petersburg, Fla., to Cleveland.

Henry Procter Cox, Victoria, B.C.; M.R.C.S., England, 1895, and L.R.C.P., London, 1895; formerly member of the Dominion Quarantine and Immigration Service; died suddenly, January 9.

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Daniel Connelly ✠ Kingston, N. Y.; Syracuse University College of Medicine, 1888; health officer of Kingston; formerly on the staff of the Kingston City Hospital; aged 68; died March 22.

James F. Miller, Webster, Mass.; Homeopathic Hospital College, Cleveland, 1881; Civil War veteran; aged 86; died, March 16, at the home of his son in Painesville, Ohio, of heart disease.

Augusta Paxton Downing, Oakland, Calif.; College of Physicians and Surgeons of San Francisco, 1902; aged 77; died, March 2, at the Providence Hospital, of chronic endocarditis.

Nelson F. Kistler ✠ Allentown, Pa.; Bellevue Hospital Medical College, New York, 1889; aged 63; on the staff of the Sacred Heart Hospital, where he died, March 26, of myocarditis.

Frederick Paul Gelbach, Jr., New York; Columbia University College of Physicians and Surgeons, New York; 1922; aged 30; died, March 21, at the Presbyterian Hospital, of sarcoma.

John Chester Rockafellow ✠ Des Moines, Iowa; University of Pennsylvania School of Medicine, Philadelphia, 1894; aged 55; on the staff of the Mercy Hospital, where he died, January 22.

George M. Robertson, Nanton, Alta., Canada; Marion-Sims College of Medicine, St. Louis, 1899; Willamette University Medical Department, Salem, Ore., 1908; aged 58; died recently.

Frederick Henry Gebhardt, Brighton, Mass.; University of Vermont College of Medicine, Burlington, 1905; served during the World War; aged 45; died, January 23, of heart disease.

Harvey Wilson Malony, Buckner, Mo.; Kansas City Medical College, 1896; formerly secretary of the Oregon County Medical Society; aged 58; died, February 16, of gastric ulcer.

Charles C. Purdum, Pawtucket, R. I.; College of Physicians and Surgeons, Baltimore, 1896; aged 53; died, January 31, of myocarditis, chronic nephritis and hypertension.

Arthur Waldo Fees, Blair, Neb.; State University of Iowa College of Homeopathic Medicine, Iowa City, 1887; also a lawyer; aged 66; died, March 2, in a hospital at Lincoln.

William Griffin Butler Hall, Schenectady, N. Y.; University of Vermont College of Medicine, Burlington, 1895; aged 63; died, March 20, of acute parenchymatous nephritis.

William Elias Burnett, Norris City, Ill.; Medical College of Evansville, Ind., 1884; member of the Illinois State Medical Society; aged 76; died, March 16, of endocarditis.

David F. Lane, Salem, Ore.; Medical College of Indiana, Indianapolis, 1884; Civil War veteran; formerly county coroner; aged 82; died, March 17, of cardiorenal disease.

Robert Schofeld Long, Frankford, Del.; Albany (N. Y.) Medical College, 1909; member of the school board; aged 45; died, March 15, of tuberculosis and heart disease.

Oliver Morgan Stout, Stinesville, Ind.; Curtis Physio-Medical Institute, Marion, 1891; aged 64; died, March 30, at the Long Hospital, Indianapolis, of heart disease.

Clark Chandler Griffin, Sr. ✠ Vinton, Iowa; University of Michigan Medical School, Ann Arbor, 1868; Civil War veteran; aged 82; died, March 15, of heart disease.

McKendree C. Smith, Columbus, Ohio; Ohio Medical University, Columbus, 1901; formerly member of the city board of health; aged 65; died, March 27, of myocarditis.

Howard Hamilton, Twin Falls, Idaho; College of Physicians and Surgeons, Chicago, 1895; aged 60; died, March 17, at the Twin Falls County Hospital, of volvulus.

Ernest P. Krieghoff, Oregonia, Ohio; Cincinnati College of Medicine and Surgery, 1900; aged 76; died, in December, 1927, of arteriosclerosis with senile dementia.

Josephus Justus Brown, Elsinore, Calif.; Missouri Medical College, St. Louis, 1879; formerly mayor of Troy, Ill.; aged 74; died, March 25, of cerebral hemorrhage.

Adolphus Wann Jernigan, Hardy, Ark.; American Medical College, St. Louis, 1911; aged 47; died, March 14, at St. Bernard's Hospital, Jonesboro, of gallstones.

William Alonzo Barger, Statesville, Tenn.; Vanderbilt University School of Medicine, Nashville, 1877; aged 76; died, in March, of valvular heart disease.

William David Rankin, New York; Medical Department of the University of the City of New York, 1876; aged 77; died, March 17, at St. Luke's Hospital.

William Tisdale Atkinson, Marlette, Mich.; University of Michigan Medical School, Ann Arbor, 1887; aged 71; died, March 11, of acute dilatation of the heart.

Charles Milton Brown, Beckley, W. Va.; Maryland Medical College, Baltimore, 1902; aged 58; died, March 7, at Mount Hope, of carcinoma of the liver.

John E. Chapman, Syracuse, N. Y.; Eclectic Medical Institute, Cincinnati, 1885; aged 68; died, March 17, of cerebral hemorrhage and chronic myocarditis.

Daniel Eugene Brown, Ellsworth, Maine; Hahnemann Medical College and Hospital of Philadelphia, 1886; aged 63; died suddenly, February 13.

William Robert Laidlaw, Portland, Ore.; Detroit (Mich.) College of Medicine and Surgery, 1896; aged 64; died, March 16, of angina pectoris.

Frederick Turney, New Orleans; Medical Department of the Tulane University of Louisiana, New Orleans, 1894; aged 62; died, February 16.

John M. Belk, Monroe, N. C.; Medical Department of the University of the City of New York, 1887; aged 63; died, March 21, of heart disease.

Carl Gustave Winter, Indianapolis; Eclectic Medical Institute, Cincinnati, 1893; aged 54; died, March 26, of chronic parenchymatous nephritis.

Joseph Edward Wells, Wellman, Iowa; College of Physicians and Surgeons, Keokuk, 1892; aged 73; died, March 25, of cerebral hemorrhage.

Christopher H. Wolfe, Clay City, Ind.; Louisville (Ky.) Medical College, 1876; aged 76; died suddenly, March 26, of cerebral hemorrhage.

Jane Lord Hersom ✠ Portland, Maine; Woman's Medical College of Pennsylvania, Philadelphia, 1886; aged 87; died, March 29, of senility.

Alfred L. Goodwin, Kansas City, Mo. (licensed, Missouri, 1883); aged 78; died, March 7, of auricular fibrillation and cirrhosis of the liver.

Allen Lilbern Corey, Stanton, Mich.; University of Michigan Medical School, Ann Arbor, 1868; aged 83; died, March 3, of senility.

Charles H. Cookson, Pittsburgh; University of Buffalo School of Medicine, 1891; aged 65; died, March 14, of diabetes mellitus.

Horatio Keeler, Chicago; Hahnemann Medical College and Hospital, Chicago, 1872; aged 80; died, March 23, of organic heart disease.

Thomas C. Miller, New Hope, Va.; Maryland Medical College, Baltimore, 1903; aged 54; died, March 10, of tuberculosis.

Harold Christopher Kindred, Tweed, Ont., Canada; University of Toronto Faculty of Medicine, 1905; died, February 10.

Edward George Sprague ✠ Barre, Vt.; University of Vermont College of Medicine, Burlington, 1894; aged 64; died, March 16.

Burton Hill Putnam, North East, Pa.; University of Buffalo School of Medicine, 1876; aged 78; died, February 8.

Cyrus E. Price ✠ Robinson, Ill.; Rush Medical College, Chicago, 1893; aged 58; died, March 27, of heart disease.

Robert H. Puckett, Birmingham, Ala.; Birmingham Medical College, 1907; aged 51; died, March 8, of pellagra.

Josiah Shaw Hammond ✠ Butte, Mont.; Cooper Medical College, San Francisco, 1873; aged 83; died in March.

John A. Stafford, Louisville, Ky.; University of Louisville School of Medicine, 1890; aged 65; died, February 27.

Henry A. Conger, Duncan, Okla.; Louisville (Ky.) Medical College, 1886; aged 67; died suddenly, in March.

Roderick Freeman Watts, Des Moines, Iowa; Rush Medical College, Chicago, 1893; aged 60; died, March 21.

P. H. Barth, Bismarck, Mo.; Marion-Sims College of Medicine, St. Louis, 1901; aged 49; died, March 2.

William A. Line, Hillham, Ind. (licensed, Indiana, 1897); aged 84; died, January 10, of arteriosclerosis.

W. E. Whitley, Gordonsville, Tenn. (licensed, Tennessee, 1889); aged 81; died, February 26.

Correspondence

"END-RESULTS FROM THE SURGICAL TREATMENT OF HYPERTHYROIDISM"

To the Editor:—In their paper on this subject (The Journal, March 3), Drs. Frazier and Mosser make two statements that particularly interest me, since one includes a quotation from a recent paper of mine and the other is, for medical literature, a rather violent criticism of a statement which the authors seem to have thought I made. They say:

> A statement in the recent literature by a prominent surgeon that he has "never deliberately planned multiple operations" requires no comment, as in the same article he admits not having had any experience with them.

It seems to me that the onus of proof of better results must lie with the surgeon who subjects his patients to additional operations.

Briefly, Drs. Frazier and Mosser, write that 146 patients were subjected to 177 operations. The ultimate failures numbered 3.4 per cent. They state that these 146 patients have been thoroughly followed without stating the total number of patients that these 146 represent; i. e., whether these are 146 consecutively operated on or represent twice or thrice that number who could not be followed. Letters and examinations by family physicians constituted part of the evidence with no indication of what part. Twenty-eight patients were subjected to sixty operations.

My paper is based on 112 patients consecutively operated on, of whom 100 were personally studied. Ninety-nine of these have a normal or subnormal metabolism. One case is reported as a failure because the single postoperative metabolism test I was able to make was above normal, but the patient regards herself as perfectly well and refuses to submit to further study. On the basis of our reports from her after the follow-up plan of Drs. Frazier and Mosser, she does not constitute a failure. Except for a few made by or under the direction of competent internists, no metabolism readings were included unless made either by my own technicians or by the technicians of the two hospitals where I regularly operate.

These 100 patients were subjected to 105 operations, the five reoperations being necessitated by my failure to accomplish an adequate thyroidectomy at the first attempt.

Since this series was studied, I have operated on an additional 393 patients for thyrotoxicosis. All were planned as complete so-called subtotal thyroidectomies. Of these, 390 have had a single operation, two have had two operations each, both through gross technical errors at the original operation. In one, an aberrant thyroid was entirely overlooked; the other was an unusually large adenomatous goiter, and an adenomatous mass was overlooked. A third patient, the only one in the series, had a preliminary ligation not planned, but determined on at the time of operation. The study of these is less complete than that of the original 100, and it is too early to report on them; but the incidence of failures on the basis of the metabolism studies to date appears to be substantially lower than in the original 100. To date none have required reoperation except the two mentioned, and it appears unlikely that any will.

The two series total 493 patients subjected to 501 operations; eight patients were subjected to two operations each. On the same basis of "fractional surgery" as Drs. Frazier and Mosser worked on, they would have been subjected to 597 operations, an excess of ninety-six operations, and sixteen would have required further surgical intervention.

The real value of multiple operations must rest on a lowered mortality, which would justify any necessary additional inconvenience to which the patients might be subjected.

The last published mortality data of Drs. Frazier and Mosser that I have at hand are of July, 1926 (*Annals of Surgery*), and the death rate given there is based on the number of operations, without a statement as to the number of patients represented. Such data are, of course, worthless and there is therefore nothing for comparison.

My own death rate is as follows:

The original 100 series formed a part of a group of 150 consecutive patients subjected to 155 operations with one death, a patient mortality of 0.67 per cent.

The entire series of 543 cases with six deaths gives a patient mortality of 1.1 per cent.

Where the mortality rate is so low, the accident of a death or two or its absence materially affects the figures. Thus, in one of the two hospitals at which I regularly operate I have had 306 consecutive thyroidectomies with one death, a patient mortality of 0.3 per cent.

Unless Drs. Frazier and Mosser's mortality is substantially lower, I cannot understand the justice of their criticism, or what advantages they claim to justify the additional ninety-six operations to which their patient-operation ratio would have subjected my patients.

The second statement of Drs. Frazier and Mosser is that:

> To state that operative failure does not occur is either a deliberate avoidance of the evidence or a confession that patients were not followed.

This is rather strong. The sentence criticized read: "I have not had failures from my thyroidectomies, but I not infrequently have failed to accomplish a thyroidectomy in the first attempt." I think that Drs. Frazier and Mosser must have failed to read the second clause of that statement. I refuse to credit myself (or another) with having accomplished a thyroidectomy when residual toxic symptoms remain. The fundamental conception is that there can be no residual thyrotoxicosis if the thyroidectomy is adequate.

H. M. Richter, M.D., Chicago.

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PENETRATION OF ULTRAVIOLET RAYS OF THE MERCURY VAPOR LAMP

To the Editor:—D. I. Macht, W. T. Anderson and F. K. Bell in The Journal, January 21, claim, as the result of observations, that the penetration of the ultraviolet rays through living animal tissue, such as skin, is much greater than has hitherto been supposed. The first of the two methods used by these authors was that of taking photographs with a quartz spectrograph, interposing as a screen a flap of living rabbit skin or a piece of human or other skin. Their spectrophotographs, however, show no striking disagreement with the conclusions heretofore reached by Hasselbach and others. Thus, with a screen of rabbit's skin 1.1 mm. thick and exposure of one minute, the band at 3,025 angstrom units of the mercury vapor arc is shown while that at 2,894 is not shown. In the case of human white skin 2 mm. thick, no band of shorter wavelength than 3,650 angstrom units appears to be shown. With cat's skin 0.9 mm. thick an exposure of five seconds sufficed to show a band at 3,025 much diminished in intensity. It must always be kept in mind that the spectrophotographic method is so exceedingly delicate that it does not give trustworthy information as to biologic action. The sensitive plate may be affected by an intensity which may not exert any disturbing effect on the balance of a living cell.

When light passes through a layer of absorbing substance, the fraction transmitted depends on the nature and thickness of the substance and the wavelength; the transmission coefficient is the fraction transmitted by a layer 1 cm. thick. If light passes two absorbing layers successively, the final fraction transmitted can be calculated by multiplying together the fraction transmitted by each layer alone. Thus, if one

layer transmits one tenth, the two in succession transmit one one-hundredth. Epidermis 0.1 mm., according to Hasselbach, transmits about one tenth and therefore epidermis 0.2 mm. thick transmits only one one-hundredth of the active ultraviolet rays. If the sensitive plate is just affected with five seconds' exposure by the band at 3,025 angstrom units with a cat's skin as a screen 0.9 mm. thick, and not at all by two minutes' exposure with human skin as a screen 2 mm. thick, it follows that rays shorter than 3,000 angstrom units are not transmitted through such human skin to any effective amount.

The second method of the authors was that of taking thermopyle readings using a quartz monochromator, and investigating each band of the spectrum of the mercury vapor arc in turn. By this means the authors arrive at the astonishing conclusion that skin 1.175 mm. thick transmits 56.3 per cent at 2,800 angstrom units and 42.3 per cent at 2,537, but only 11.4 per cent at 3,660, results wholly at variance with the quartz spectrophotographs given in the first part of their paper. A simple prism monochromator necessarily transmits impure light owing to reflection at various surfaces. In the case of the system shown in figure 5 of the authors' paper, there seems an additional danger of the concentration by the lens (which is placed between the exit slit and the rabbit skin) of rays reflected off the wall of the monochromator tube and passing the slit at an angle to the main beam. It is noteworthy that the galvanometer deflections given in the authors' monochromator table do not fall with decreasing wavelength in the same fashion as the measured energy data known for the mercury vapor lamp.

The authors have made no attempt to confirm their physical measurements by those methods of biologic measurement which should be regarded as essential for biologists and therapeutists. The authors' conclusions conflict with such biologic measurements. For example, tubercle bacilli are not killed when rotated for one hour in a quartz flask containing serum under a mercury vapor arc (Eidinow, Albert: *Brit. M. J.* **2**:160 [July 30] 1927). The protein of the serum in so thin a layer suffices to protect them. It takes about sixty minutes to kill staphylococci under such conditions. They are easily killed in Ringer's solution. The circulation in the vessels of the mesentery continues when a screen of egg white 5 mm. thick is placed between it and the mercury vapor arc. It stops in six minutes when unscreened (Campbell, Argyll; and Hill, Leonard: *Brit. J. Exper. Path.* **5**:317 [Dec.] 1924). Paramecia in a quartz chamber (kept by irrigation at room temperature) are so far protected when, with the mercury vapor arc, a screen of omentum or mesentery (free from fat or blood vessels) is interposed, that about six times the killing dose is required. A screen of shaved skin from the rabbit's abdomen affords complete protection over two and a half hours of observation. So with the ciliated cells of the rabbit's trachea, a screen of transparent omentum protects so that five or six times the killing dose is required, and a layer of stretched rabbit's bladder gives protection for more than one and a half hours of observation. In the case of human skin a screen of a layer of the transparent rabbit's omentum and an exposure to the mercury vapor lamp of thirty minutes produces a degree of erythema very little greater than that produced by a five minutes' exposure of the naked skin; with twenty minutes' exposure the erythema is less. With rabbit's skin as screen no erythema results after hours of exposure.

Czarnecki and Jolly (*Compt. rend. Soc. de biol.* **98**:380, 1928) observed that the testis of a white rat was not affected by the mercury vapor lamp through the skin. After removing the skin they irradiated the surface of the testis for from one to two hours. Only the first row of tubules was affected, and to a depth of about 0.25 mm. The coats of the testis were estimated as being 0.2 mm. thick; the total depth through which the biologically active rays penetrated was then 0.45 mm. It probably was less because the products of the injured cells spread to a certain extent and provoke injury.

These biologic tests confirm the view that the ultraviolet rays of the active region about 3,000 angstrom units are absorbed by the epidermis alone, when this is 0.5 mm. thick, so that any effective biologic action of the mercury vapor lamp on deeper tissues is prevented even with exposures of from one to two hours. With an exposure of five minutes, effective action on deeper tissues will be screened off by the epidermis when it is much thinner than 0.5 mm.

LEONARD HILL, Hampstead, London, England.
National Institute for Medical Research.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DELAYED DENTITION

To the Editor:—I have consulted my textbooks and I do not find anything definite on the treatment of delayed dentition. In children with a manifest primary cause, the idea is to treat the primary cause, of course, but I refer to infants who seem normal, in good flesh, and having no dietary troubles, yet are 10 or 12 months old, with no evidence of teeth. Some of the "glandular" manufacturers have a set formula for such, but I would prefer that I get my information elsewhere. Is delayed dentition the cause of "soft" teeth in adult life? I mean those people whose teeth decay early and have trouble retaining fillings. Kindly do not publish my name.

M.D., Palmyra, Mo.

ANSWER.—The ductless glands are presumed to have certain control over the time of the eruption of the teeth, yet knowledge is insufficient to justify therapeutic measures with the idea of hurrying the eruption. If the parents are anxious they might have roentgenograms made which will show that the teeth are present in the jaws, in which case there is no doubt of their erupting in the course of time. Delayed dentition has nothing to do with the quality of either the temporary or the permanent teeth.

TREATMENT OF INDUSTRIAL CONDITIONS ASSOCIATED WITH "CASE HARDENING"

To the Editor:—I have a patient suffering from a dermatitis, which is chiefly on the hands and wrists and to a lesser degree on the thighs and legs. He is employed in a factory to treat finished metal parts in a bath of sodium cyanide, 50 per cent; sodium chloride, 15 per cent, and what he styles as "soda," 35 per cent. These chemicals are heated to 1,650 F. and the steel parts immersed therein, afterward being immersed in an oil bath at room temperature. During this process drops of the heated chemical may drop on a wet floor or drops of the chemically contaminated oil may splash on the hands or body. He has observed that if such drops are not removed immediately a marked lesion is produced. If such drops strike the clothing they soon soak through and a milder lesion may be expected. Will such poisoning produce a systemic effect or is it confined to the skin? Do you know of any preparation or any method to prevent such irritation? Can you give me a treatment for the lesions that exist? Please omit name.

M.D., South Bend, Ind.

ANSWER.—The trades process described in this inquiry is apparently "case hardening." Fused sodium cyanide (temperature 1,650 F.) liberates fumes of sodium cyanide and cyanogen. Given any considerable concentration, these fumes may produce systemic cyanide poisoning, cyanide ulcers or cyanide dermatitis. When drops of the highly heated sodium cyanide fall on a wet floor, fumes are produced that are toxic in proportion to their concentration.

Our correspondent implies, however, that the lesions observed are produced by the chemically contaminated oil. The quickness of the reported action appears to rule out the well known oil furunculosis. This rapid action may be due to one or both of two sources of harm. First, the metal parts submerged in the fused sodium cyanide bath, when transferred to the oil bath for quenching, carry over some adhering sodium cyanide, which splashes as it comes in contact with the cooler oil. Second, the oil when subjected to contact with the highly heated metal parts may decompose (especially at the oil surface), leading to a group of irritating substances. A detailed description of the chronic effects of

cyanides is given by C. I. Reed, *J. Indust. Hyg.* **2**:140 (Aug.) 1920.

Well established cyanide ulcers are resistant to all treatment and occasionally become the site of malignant growths. At the present time actinotherapy appears to provide the best form of treatment.

The dermatitis described, if a true chemical dermatitis and if the skin is not infected with fungi, will clear up when reexposure is no longer permitted, and when treated with wet dressings of such solutions as solution of aluminum acetate N. F. (about 5 per cent aluminum acetate), replaced at the end of from seven to ten days by applications of 10 per cent zinc oxide suspended in olive oil.

For the prevention of this dermatitis attributed to the chemically contaminated oils, the following steps are suggested: A tenacious superfatted soap should be applied to the hands and forearms at least twice daily. This forms a dry, usually nonirritating, invisible coating on the hands and forearms that is impervious to oils and grimes.

At the end of the work period the hands and forearms should be completely freed from dirt or oil and should have rubbed into them small quantities of a bland ointment.

Oil vats should be provided with hoods and suction, and the oil should be renewed at sufficiently frequent intervals to obviate a dangerous concentration of irritating impurities.

PAINFUL AURICLE

To the Editor:—Recently I have had two patients whose chief complaint was pain in the auricle of the ears when lying on the side. Patients state that they can lie on the back or the face with comfort, but that a few minutes after turning on the side pain begins in the auricle and continues until the head is raised, whereupon the pain subsides. The auricles are normal in appearance; general physical examination, including all laboratory examinations, is negative. I have been unable to find anything in medical literature to explain this peculiar phenomenon and request your assistance in ascertaining its etiology.

GEORGE F. GRISINGER, M.D., Charleston, W. Va.

ANSWER.—It is difficult to explain a phenomenon when objective signs of any pathologic changes are not present. It is possible, however, that one of two things may be present which may in some way explain the symptoms of these patients. In the first place, it is often noticed, especially in hospitals, that the skin of the auricle becomes sensitive, extremely irritable and often painful to any pressure when the person is lying on the auricle for any length of time. In the second place, the pulsation of the internal carotid artery which passes through the temporal bone is often noticed by patients when the head is pressed against the pillow or when the individual is lying on his side. In some cases, the patient confuses the thumping that is noticed with a dull pain, but the condition is not accompanied by any inflammatory signs or reactions. Of course, in those cases in which there is any infection or inflammation of the tissues of the external auditory canal or of the auricle itself, contact or pressure elicits pain; but in the cases cited, the explanation given will perhaps suffice.

PITUITARY EXTRACT FOR DEFICIENT SEXUAL DEVELOPMENT

To the Editor:—Can you give me late authoritative references on gland treatments? The immediate request concerns the use of pituitary extract for undeveloped sex glands. The conflict of authorities, as ordinary readers get their accounts, leaves us uncertain as to who are authorities.

MRS. W. W. CHARTERS, Chicago.

ANSWER.—That normal functioning of the ovaries and testes depends on, among other things, some influence from the hypophysis, more specifically from the anterior lobe of this gland, seems definitely established in the experimental animal, and the experimental work finds fairly conclusive clinical corroboration in the destructive diseases of the hypophysis in man. There is equally clear evidence that the gonads fail to grow, maintain themselves or function properly in cases of serious hypofunction of the thyroid. There are also indications of impairment of the ovaries and testes following destructive lesions at the base of the midbrain, which lesions appear to be responsible for the adiposity developed in patients with the syndrome. The clinical literature is conflicting and inconclusive on the point as to whether one can favorably affect (stimulate) the ovaries and testes by the administration of the now available hypophysial preparation. It seems clearly established that various preparations from the posterior lobe are without effect. Feeding of various preparations from the anterior lobe has been reported as giving positive results in animals by Goetsch, Robertson and a number of other investigators, but the most conclusive recent work is that of E. P. Smith, Smith and Engle, and Evans, which may be thus summarized:

Following hypophysectomy or, more specifically, total removal of the anterior lobe, daily implantation of the fresh anterior lobe from other animals or daily administration of emulsion of the anterior lobe prevents the atrophy of the gonads that universally follows the hypophysectomy. These investigators have even showed that such administration of anterior lobe gland or substance will accelerate the maturation of the gonads in animals not hypophysectomized. However, *feeding* anterior lobe substance, fresh or dried, had no effect on the gonads of hypophysectomized animals, in the hands of these investigators. In view of these conclusive results we must be very skeptical of the occasional positive effects of such hypophysis feedings in patients in whom, in many cases, the hypophysial origin of the gonad hypofunction is not even clearly established. It would seem, then, that the hormone or hormones of the anterior lobe of the hypophysis fall in the category of the hormones of the pancreas and the parathyroid gland, in that it is inactive when administered by mouth. If that is correct, we cannot expect efficient treatment of gonad hypofunction due to hypophysial insufficiency until the hormone or hormones of the anterior lobe are prepared in sufficient purity for hypodermic, intramuscular or intravenous injections in man.

Some of the recent literature referred to is appended:

Smith, P. E.: *Am. J. Physiol.* **80**: 114 (March) 1927; **81**: 20 (June) 1927.
Smith, P. E., and Engle, E. T.: *Proc. Soc. Exper. Biol. & Med.* **24**: 561 (March) 1927; *Am. J. Anat.* **40**: 139, 1927.
Evans, H. M.: Harvey Society Lectures, 1923-1924.
Zondek, B., and Aschheim, S.: *Klin. Wchnschr.* **6**: 248, 1927.
Goetsch, E.: *Surg. Gynec. Obst.* **25**: 229 (Sept.) 1917.
Walker, A. T.: *Am. J. Physiol.* **74**: 249 (Oct.) 1925.
Biedl, Arthur: Physiologie und Pathologie der Hypophyse, Munich, J. F. Bergmann, 1922.
Frank, R. T.: Influence of Pituitary Extracts on Genital Tract, THE JOURNAL, Dec. 6, 1919, p. 1764.

SINGLE INJECTION PROPHYLAXIS IN RABIES

To the Editor:—Can you advise me as to the efficiency of the new prophylactic rabies treatment in animals? This treatment consists of a single injection.

ABRAHAM TRUMPER, M.D., Montgomery, Ala.

ANSWER.—Some foreign countries have adopted the one dose injection of antirabic vaccine as a prophylaxis of rabies in dogs, and reports have been published of several thousand dogs so treated rendered refractory to rabies. Some investigators have thrown doubt on the efficacy of this single dose prophylactic method and advise a course of three injections of a glycerophenolated rabies vaccine in doses proportioned to the weight of the animal, given from five to seven days apart, with claims that the animal so treated would be made immune to rabies for about one year, and that if the course is then repeated, the immunity would be prolonged from eighteen months to two years. Recently several mad dogs were reported in Chicago and in some suburbs. Many persons were bitten and promptly took the Pasteur treatment successfully. The Chicago Pasteur Institute treated two families infected by their dogs which showed unmistakable signs of rabies diagnosed by veterinarians and by laboratory study. Both animals had received the one dose prophylactic vaccine, three and two months previously, but when they became exposed to infection from other rabid dogs developed rabies in due time. These two cases, which occurred in a limited area where rabies was prevalent, tend to prove somewhat the inefficiency of the one dose prophylactic treatment. Further study and experimentation, aided by careful scientifically controlled statistics, may in time bring about a successful prophylactic treatment of rabies in animals.

PALPABILITY OF EPITROCHLEAR LYMPH NODES

To the Editor:—What diagnostic significance has unilateral or bilateral palpability of the "epitrochlear" lymph nodes at various ages?

O. C. AMSTUTZ, Columbus, Ohio.

ANSWER.—The bilaterally palpable "split pea" sized epitrochlear lymph node is considered indicative of syphilis, especially in younger persons. These nodes may, however, be palpable bilaterally in the lymphatic leukemias, Hodgkin's disease, lymphosarcoma, arthritis deformans, tuberculosis, and in association with chronic or acute infections or irritations of the area drained. Only one of these glands may be palpable in any of the foregoing conditions, but usually both are palpable if there is a general lymphadenopathy. Unilateral palpability is more usually found in tuberculosis, or when associated with chronic or acute inflammation or irritation.

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In childhood, the most common causes for bilateral palpability are syphilis, eczema and arthritis. The leukemias associated with lymphadenopathy are more common during early adult life. The results of chronic or repeated infections or irritations in the area drained and of arthritis deformans make palpability of these nodes more common in older persons. Carcinoma may also cause the node on the affected side to become palpable.

"Epitrochlear" lymph nodes become palpable under a great variety or circumstances. Their palpability is not pathognomonic of any disease condition whether one or both are involved. In early life their palpability is apt to be of more grave significance than in later life.

PYROSIS DURING PREGNANCY

To the Editor:—Kindly advise me of any new treatment, also any treatment you may suggest for pyrosis. The patient is six months pregnant. Five years ago in her last pregnancy she suffered similarly, though the condition was not so stubborn and resistant to treatment. Potassium bicarbonate gave good relief five years ago, but only temporary relief now, which sodium bicarbonate also gives for a time. Good relief was obtained from lemon juice in water with little or no sugar, but not much relief of late. Starchy food seems to make the condition worse. Apparently at times it is the same if she fasts or eats a variety of food.

C. J. NEWCOMB, M.D., Bellefonte, Pa.

ANSWER.—The patient may obtain relief by eating finely divided food every two hours instead of the customary three meals a day. Highly seasoned foods, soups, meat, coffee, tea and spices should be omitted from the diet. If constipation is present it should be corrected, because heartburn is more common in women who are constipated. A helpful powder, made from the following prescription, should be taken three or four times a day before meals:

	Gm.
Calcium carbonate	20
Magnesium carbonate	10
Sodium bromide	10
Extract of belladonna	0.1

Mix and make into sixteen powders.

During pregnancy there is nearly always a diminished amount of free hydrochloric acid and total acid of the stomach, and because of this it may be advisable to give the patient from 10 to 15 drops of diluted hydrochloric acid U. S. P. in one-half glass of water, three or four times a day, half an hour before or after a meal. If given after meals, the same amount of hydrochloric acid may be repeated half an hour later. Relief is sometimes obtained by giving the powder before meals and the hydrochloric acid after meals.

TREATMENT OF TRICHINOSIS

To the Editor:—Will you kindly advise me what treatment can be used to cure trichinosis in human beings?

N. J. R. CHANDLER, Health Officer, Plainfield, N. J.

ANSWER.—Brisk purgation is indicated, e. g., by mild mercurous chloride, castor oil, and colonic flushing. To this may be added the use of santonin, aspidium or pelletierine. If such treatment is employed before the parasites have entered the intestinal wall, there is a prospect of cure. When the symptoms of systemic invasion have appeared, from five days to three weeks after ingestion of the infested pork, it is too late for curative treatment, though the evacuants and anthelmintics suggested may be employed with the hope of affecting and eliminating some adult worms, belated in their invasion of the intestinal wall. As there is no specific treatment against the embryos, once they have entered the system, the management of an established case of trichinosis is symptomatic: analgesics for pain, hypnotics for insomnia. The treatment may have to be similar to that required by typhoid, a condition which trichinosis resembles so closely that it has been mistaken for it.

THYROID IN HYPERTENSION — TREATMENT OF TERTIARY SYPHILIS

To the Editor:—1. I am using successfully 8 grains of desiccated thyroid daily in a hypertension case, uninfluenced by any other treatment. Withdrawal of the thyroid causes an immediate increase in blood pressure. Is there any harm in the continuous and indefinite use of such large doses of thyroid? 2. What is a good and practical therapeutic policy to follow in tertiary syphilis and neurosyphilis to keep the Wassermann reaction negative after it has become so, and what policy in early syphilis? Please omit my name.

M.D., Los Angeles.

ANSWER.—1. The harm to be guarded against would be the induction of symptoms of hyperthyroidism, such as palpitation, rapid pulse, tremors, nervousness, insomnia, diaphoresis, diarrhea and loss of weight. If the patient is under proper and careful supervision, it might be possible to secure the desirable without the undesirable effects. The patient may be hypothyroid and require the dose stated to bring the metabolism nearer to the normal. A basal metabolism test, while the patient is under the influence of thyroid and while he is without it, should answer this question.

2. In all stages of syphilis the best method of preventing recurrence is continued treatment. After the Wassermann reaction has become negative in early syphilis, several courses of treatment should be given with only two weeks between them. If the negative reaction persists and no other signs of recurrence appear, the interval between courses can be lengthened cautiously. Treatment should be continued in late syphilis for a long time after all signs have disappeared. The older the case and the more slowly the symptoms, including the serum reactions, have yielded to treatment, the longer must treatment be continued before lengthening the interval between courses. In late syphilis the most assiduous attention to treatment will not always prevent reversal of the Wassermann reaction to positive, especially in the spring of the year. These relapses are, however, usually of short duration, yielding rather promptly to continued treatment.

INCREASED BLOOD PRESSURE — FUNCTION TESTS OF KIDNEY — BLOOD CHEMISTRY

To the Editor:—1. How significant is a moderate increase of blood pressure, say 140+, on repeated examination in persons below 20 years of age? Kindly indicate additional points in checking up these cases, such as condition of the urine and blood serum. Functional tests may, of course, be disturbing to the minds of the patient's friends, so cannot be undertaken except for a good reason. 2. At present, what are the best functional tests (including liver test) of the kidney condition? 3. What is the present general opinion about the importance of the different items in blood chemistry as bearing on this condition? Kindly omit name and address.

M.D., New Jersey.

ANSWER.—1. Moderate increase in blood pressure, 140+, on repeated examination in persons below 20 years of age is definitely pathologic. The most probable diagnoses are nephritis (glomerulonephritis), essential hypertension, aortic insufficiency and thyrotoxicosis.

Nephritis is usually due to scarlet fever, diphtheria or streptococcic tonsillitis, and is accompanied by the usual signs in the urine—albumin or casts—and an increased amount of nonprotein nitrogenous metabolites in the blood. The protein constituents of the blood are usually normal in amount, from 6 to 8 per cent and, except during the exacerbations of the disease, the albumin-globulin ratio of the protein should be at about 60:40, the normal ratio.

In essential hypertension, so called because of lack of any primary cause for the increase in blood pressure, no history of antecedent disease may be noted. The patient appears normal except for possibly a reddish tinge to the face. The blood count and urinalysis should be normal early in the disease. All the chemical tests of the blood should be normal early in the disease. Later, a rise above normal in the creatinine and uric acid may be noted and a failure of concentration of the urine may appear. Aortic insufficiency does not offer diagnostic difficulties.

Thyrotoxicosis due to hyperthyroidism or thyroid adenoma is always to be considered in a young person with a blood pressure over 140 living in one of the goitrous regions. The physical signs of hyperthyroidism should be looked for. A basal metabolic rate about +20 per cent on repeated examination is highly suggestive of thyrotoxicosis. In this syndrome, a high systolic blood pressure, above 140, with a diastolic pressure at 70 or 80, producing a pulse pressure over 50 is usual. The blood count is normal. The chemical tests of the blood are normal. The urine is normal.

2. Among the best tests of kidney function are the Mosenthal test, the urea test and the phenolsulphonphthalein test.

In the Mosenthal test a definite diet with 2,070 cc. of fluid is given during the day. Beginning at 8 a. m., specimens are collected at two hourly intervals during the day up to 8 p. m., and a night specimen from 8 p. m. to 8 a. m. The quantity and specific gravity of each specimen are noted. In normal persons from 1,013 to 1,712 cc. is excreted during the twenty-four hours, of which from 684 to 1,195 cc. is excreted during the first twelve hours and normally 33 per cent of the total is excreted during the night. If more than 50 per cent is excreted during the night, a failure of kidney function is present. The specific gravity usually varies from 1.010 to 1.020 during the day, dilution being the rule two hours after each meal. The specific gravity of the normal night specimen is usually from 1.020 to 1.035.

The urea concentrating test rates high as a test of kidney function. This is rather too complicated for general use.

The phenolsulphonphthalein test has considerable value. If failure of excretion of the dye occurs, kidney function is deficient, although a normal test does not rule out nephritis. This test is not as satisfactory as the Mosenthal or the urea ratio tests.

The most widely used liver function tests are the van den Bergh and the icterus index based on bilirubinemia; the bromsulphalein and rose bengal based on the elimination of dyes by the liver; and the presence of urobilin in the urine. None of these tests reveal any insight into kidney function.

3. The present general opinion about the importance of the different items in the chemical examination of the blood bearing on this condition is as follows: The creatinine and uric acid are sensitive indexes to kidney function. Elevation of the normal level of these substances in the blood may be the first sign of failure of kidney function. Later in the course of the disease the urea nitrogen and the nonprotein nitrogen will reflect kidney function failure.

TREATMENT OF PLANTAR WART

To the Editor:—Would you kindly inform me as to any satisfactory treatment other than radium or the roentgen ray for the papillary wart which is found on the plantar surface of the feet in girls taking gymnasium work? What preventive measures could be used in a large gymnasium? What distinfecting material should be used on the floors? Kindly omit name.

M.D., Iowa City, Iowa.

ANSWER.—Satisfactory treatment other that the roentgen ray or radium for papillary warts consists of:

1. The repeated application of glacial acetic acid or of nitric acid.
2. Excision and suture of the wart-bearing area.
3. Felt pads to relieve weight bearing on the wart-bearing area.

As to preventive measures which could be used in a large gymnasium, most important is the prevention of barefoot walking by the use of wooden shoes. Another preventive measure includes inspection of the soles of the shoes for tacks or ridges. Another thing to be considered is the interchanging of hosiery, especially by girls, in a gymnasium.

There is no disinfecting material that could be used on the floors which would be of any real value for any considerable period.

LITERATURE ON REFRACTION OF EYES

To the Editor:—What journals are published in the interest of the refractionist and his problems? What books, other than Thorington and Hartridge, could I study profitably in making myself more expert? Please omit name.

M.D., Illinois.

ANSWER.—All the journals devoted to ophthalmology give more or less attention to the problems of refraction, but there is no reputable journal devoted entirely to the interests of the refractionist. To improve in refraction, a thorough knowledge of fundamentals is essential and to that end a careful study of Tscherning's Physiological Optics and of Alfred Cowan's Optics should be undertaken. This can be followed by Thorington and Homer Smith or any of the better textbooks on refraction. After these have been digested, perfection can follow only on continued practice.

NEOARSPHENAMINE IN PATIENT WITH HAY-FEVER

To the Editor:—Is there any danger in giving intravenous injections of neoarsphenamine to a patient who also has hay-fever? If so, what precautions should be taken? Please omit name.

M.D., Cincinnati.

ANSWER.—In a patient subject to hay-fever, arsphenamine and its derivatives should be used with somewhat more caution than in ordinary patients. We are not aware that hay-fever has been mentioned as a contraindication to the use of arsphenamine, and we do not see any reason why it should be so regarded if the treatment is carried out with reasonable caution.

STAINING GAS BACILLUS

To the Editor:—Will you please give me the formula for staining gas bacillus in tissue work? I have hunted through several medical books, even to Mallory and Wright, and cannot find it.

MRS. E. M. STEWART, Astoria, L. I.

ANSWER.—The gas bacillus (*Bacillus welchii*) is a rather large bacillus, which is gram-positive and consequently not difficult to demonstrate by means of the gram stain if present in tissues.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

AMERICAN BOARD FOR OPHTHALMIC EXAMINATIONS: Minneapolis, June 11. Sec., Dr. William H. Wilder, 122 S. Michigan Ave., Chicago.

AMERICAN BOARD OF OTOLARYNGOLOGY: Minneapolis, June 11, Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha.

ARKANSAS: Little Rock, May 9-10. Sec., Reg. Bd., Dr. J. W. Walker, Fayetteville. Sec., Homeo. Bd., Dr. A. A. Pringle, Eureka Springs. Sec., Eclectic Bd., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith.

CONNECTICUT: New Haven, June 9. State Board of Healing Arts, Box 1895, Yale Station, New Haven.

DELAWARE: Wilmington, June 19-21. Sec., Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

FLORIDA: Jacksonville, June 11-12. Sec., Dr. William M. Rowlett, 812 Citizens Bank Bldg., Tampa.

GEORGIA: Atlanta and Augusta, June 6-8. Sec., Dr. B. T. Wise, Americus, Georgia.

INDIANA: Indianapolis, June 19. Sec., Dr. E. M. Shanklin, 421 State House, Indianapolis.

IOWA: Iowa City, June 5-7. Dir., Mr. H. W. Grefe, Des Moines.

KANSAS: Kansas City, June 19. Sec., Dr. Albert S. Ross, Sabetha.

KENTUCKY: Louisville, June 12. Sec., Dr. A. T. McCormack, 532 W. Main St., Louisville.

LOUISIANA: New Orleans, May 1. Sec., Homeo. Bd., Dr. F. H. Hardenstein, 830 Canal St., New Orleans.

MARYLAND: Baltimore, June 19-22. Sec., Reg. Bd., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore. Homeo. Bd., June 12. Sec., Dr. J. S. Garrison, 517 Old Orchard Rd., Ten Hills, Baltimore.

MICHIGAN: Ann Arbor, June 12-14 and Detroit, June 18-20. Sec. Dr. Guy L. Connor, 707 Stroh Bldg., Detroit.

MINNESOTA: Minneapolis, June 5. Sec., Basic Science Bd., Dr. E. T. Bell, Anatomy Bldg., University of Minnesota, Minneapolis.

NATIONAL BOARD OF MEDICAL EXAMINERS: Class A Medical Schools, June 13-15. Dir., 608-12 Fifteenth and Locust Sts., Philadelphia.

NEBRASKA: Omaha, May 1. Sec., Basic Science Bd., Mr. Lincoln Frost, Lincoln.

NEVADA: Carson City, May 7-9. Sec., Dr. Edw. E. Hamer, Carson City.

NEW JERSEY: Trenton, June 19-20. Sec., Dr. Chas. B. Kelley, 30 W. State St., Trenton.

NEW YORK: New York City, Albany, Syracuse and Buffalo, June 25-28. Sec., Dr. Harold Rypins, Educational Bldg., Albany.

NORTH CAROLINA: Raleigh, June 18. Sec., Dr. John W. MacConnell, Davidson.

OHIO: Columbus, June 6-8. Sec., Dr. H. M. Platter, State Savings Bank Bldg., Columbus.

SOUTH CAROLINA: Columbia, June 26. Sec., Dr. A. E. Earle Boozer, 505 Saluda Ave., Columbia.

THE CONDUCT OF A CLINICAL DEPARTMENT

Views as to the best way to organize and conduct a clinical department of a medical school vary greatly. All concerned in medical education naturally seek information and advice from those who have had experience in the teaching of clinical branches of medicine. If we are to have eventually in the medical schools of the United States the best departments of medicine, surgery and obstetrics, then they must be planned on the basis of the collective experience of those who have had intimate contact with the problem. To this end it seems desirable to have republished in a place accessible to the general medical public the thoughtful statement of the late Prof. Theodore C. Janeway, which was read before the Association of American Universities at Iowa City, Nov. 10, 1917, a little more than a month before the author's death, and which, having been published in the *Educational Review* of March, 1918, very largely has been lost to most of those now striving to improve clinical departments in our medical schools. Professor Janeway's statement has the background of an unusually varied experience; as he expresses it, "I have taught in three medical schools and in four hospitals, and have been an unpaid instructor, a professor giving part of his time to consulting practice, and a well paid, full-time teacher."

Theodore C. Janeway was born, Nov. 2, 1872, graduated from Yale Ph.B., in 1892; and from the Columbia University College of Physicians and Surgeons M.D. in 1895, was instructor and then lecturer on medical diagnosis at New York University, 1898-1906, associate in medicine at the Columbia University College of Physicians and Surgeons, 1907-1909, and professor of the practice of medicine at the same, 1909-1914, and professor of medicine at Johns Hopkins University and physican-in-chief at the Johns Hopkins Hospital from 1914 to his death, Dec. 27, 1917, while on leave of absence in service in the Medical Corps of the U. S. Army.

HENRY A. CHRISTIAN, M.D., Boston.

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OUTSIDE PROFESSIONAL ENGAGEMENTS BY MEMBERS OF PROFESSIONAL FACULTIES*

THEODORE C. JANEWAY, M.D.

(Published in the *Educational Review*, March, 1918)

In order to economize time for the fuller discussion of matters about which we may differ, I shall assume at the outset that we all substantially subscribe to the following seven propositions:

1. That professional faculties for the purpose of this discussion shall be limited to the professional faculties of universities, and that extra-university medical schools are not in consideration.

2. That the essential distinction between a university teacher and a teacher in a secondary school or college resides in the obligation which rests upon the former to advance knowledge in his subject, in addition to imparting knowledge.

3. That the essential distinction between a university student and a school boy or college student lies in the fact that the former aims to become a worker in his chosen subject and, therefore, seeks training in methods, whereas the latter, if he has any interest in learning at all, seeks knowledge about the subjects studied as a means to general culture. In this aim students in technical schools and professional schools are one with the Ph.D. students of philosophical faculties. On the other hand, in American institutions with graded courses of instruction and rigid separation of students into classes, the professional student cannot choose his teacher in each individual subject, but can only choose a group of teachers in the subjects taught in one or more years of the course. In this respect the professional school is midway between the undergraduate and the graduate school, whatever its requirements for entrance. Only after he has obtained his professional degree can the student of medicine choose his own masters.

4. That the inclusion of a member of a medical faculty in this discussion is evidence of a consciousness that, in the medical schools of the United States, professors have in the past far too frequently fallen below university standards and have been successful practitioners first, teachers second; also that this condition is anomalous, that its cause should be sought and a remedy found.

5. That the professors in the fundamental medical sciences, the so-called preclinical subjects of the first two years of the medical course, anatomy, physiology, biological chemistry and bacteriology, are university professors of pure science assigned to the medical faculty, and that the problem of outside professional engagements for them is practically nonexistent.

6. That the ideal medical school should have men of equally true university type in the practical clinical chairs, medicine and surgery, with their special branches, and obstetrics; that these men should be recognized masters of their subjects, contributing actively to their advancement, stimulating their assistants and students to independent research, epitomizing in their teaching the best existing thought, but always suggesting the unsolved problems for the future and arousing enthusiasm for honest work toward their solution. This attitude of mind it is which Claude Bernard, seventy years ago, told his pupils distinguished the lectures they would hear from him from the didactic teaching of the clinical professors of the faculty.

7. That, with this constructive aim in view, the object of the present inquiry is to determine whether outside professional engagements for clinical teachers constitute an obstacle to its realization, and to what degree.

Let us now examine a little more in detail what the realization of this ideal demands of professors of medicine or surgery. First, they must be masters of their subjects. These subjects are practical arts as well as applied sciences. The physician, therefore, must be a skilful diagnostician, and command both the technic of modern treatment and the wisdom of his more scantily armed predecessors. The surgeon must be a dexterous and resourceful operator, the obstetrician an accomplished midwife. Only long practical training can make them masters, and only constant application of their knowledge can keep them such. They must be men of sound judgment based on long personal experience, whose opinions are valued in difficult cases. These qualities are not acquired in the laboratory but at bedside and operating table and in the postmortem room, for every master of medicine or surgery must also be a good pathologist.

On the other hand, they must be investigators. Today this requires first hand familiarity with the exact methods of laboratory science, of physiology, or chemistry or bacteriology, as applied to the study of disease in man. The days when new knowledge might be acquired through the exact description and record of symptoms and signs, a method which has made so many men famous since Laënnec and Louis and Bright, are not wholly outlived; but great advances cannot now be made without the methods of exact science. The education of the laboratory, therefore, must also be acquired, and the time consuming investigations of the laboratory must be carried on, or the clinical master will be a sterile professor. Furthermore, the professor must have a reasonable acquaintance with the history of his subject and must keep abreast of its enormous literature, if he would be true to university type.

In the education of such a clinical master, and his education is never finished, what is an outside engagement? Strictly speaking, there can be none. "Nihil humanum mihi alienum puto" may for him be rendered "No phase of human disease is without significance for me." On the other hand, it is clear that only the exceptional Superman can survive such an education, and that for the ordinary ruck of mortals, for from such most university professors must, after all, be chosen, limits must be set somewhere. It is thus a question of balance, of Aristotle's "mean." Nevertheless, one aspect of this threefold activity I must insist on as fundamental for every clinical teacher: he must be a practitioner of his branch of the medical art. If not, no matter how able an investigator he be, he is not a clinician. The subject matter of his investigation must be the sick human being, and his essential workshop the hospital. Even though he may often resort to more easily controlled experiments on the lower animals for help in the elucidation of his problems, no solution is final until his experiment has succeeded in curing the sick man. The hospital is also his classroom. Only in dispensary, ward or operating room can he train the student in the methods of investigation and treatment of patients, and familiarize him with the natural phenomena of disease. Such training, we have already agreed, is the essence of professional or university education. Since the hospital is both classroom and workshop, the clinical teacher is obliged to carry the heavy responsibility of its professional administration, making it contribute the most possible to the care and cure of the patients within its walls, to the instruction of the students who contribute to this care, and to the discovery of new facts or the elaboration of improved methods. He must have, as accessory to his wards, laboratories of chemistry, microscopy, bacteriology and applied physiology, for investigation, and must oversee the work done in them. If a surgeon, he must organize the complicated machinery

* Read before the annual meeting of the Association of American Universities, Iowa City, Nov. 10, 1917. Dr. Janeway died after a brief illness, Dec. 27, 1917.

and team-work of an operating room and conduct a pathological laboratory for the study of diseased tissues removed at operation. Through it all he must bear the responsibility of human lives committed to his care, with their immediate, and often urgent, problems. Thus a radical difference exists between the clinical teacher and the teacher of pure science. The former must be ready at all times to subordinate ultimate scientific achievement to the present and pressing human problem, and, unless he is willing to do this, he has no right in the clinic, but should be a laboratory worker only. He can never have the freedom nor the leisure of the latter, and mastery of his practical art must be his first care.

For such a teacher, let us ask again, be he physician or surgeon, what constitutes an outside professional engagement? Since this question has come to be asked insistently in our own country, two answers have been given to it: first, that it is any engagement outside of his hospital; second, that it is any engagement for which he receives compensation additional to his salary from the university. Based on these answers, two plans have been devised for restricting the activities of the clinical teacher in order to secure his undivided attention to his university and hospital duties. All such plans have had at their root the idea that, because clinical teachers in the past, as they grew older, became more engrossed in the practice of their profession, they must therefore be shielded from the temptation to become such masters of their practical art that their advice and skill would be widely sought, and that, this done, they would quietly remain devoted university teachers and fruitful investigators all their days. All such plans, therefore, seek to attain the positive aim of securing university teachers and investigators through the negative method of limiting the opportunity of the professor to become a widely known master of his subject. Is this wise? Clearly not, if the result is to be that the clinical teachers of the future shall be but mediocre physicians and surgeons. The professors of medicine and surgery are not set to make physiologists or pathologists of their students. Science they must teach, the methods of exact science they must use, but it must all be applied to the solution of endlessly varying riddles presented by the individual patient. They must fire their students with an enthusiasm for the grinding work necessary to become proficient in practical medicine, which today includes the utilization of laboratory methods on an ever-growing scale. They must maintain the respect of their staffs for their acumen and practical skill. Therefore, the professor of medicine or of surgery is truest to university type who is most completely the master of the practical aspects of his profession thus viewed. What policy of restriction can accomplish this?

The first plan, restriction of the professor's work to his hospital, has the great advantage of economy of time and concentration of interest. No one would think of arguing against his seeing patients in the hospital, rather than outside, wherever possible. For the surgeon, whose success depends upon the perfection of organization and technic, the restriction is certain to be self-imposed wherever the hospital offers adequate facilities for the care of private patients. If self-imposed, it is therefore unnecessary for any external authority to require. For the physician the method has great disadvantages. He is sought chiefly for his opinion. In many of the urgent cases this can be given only at the home of the sick man. Such consultations with good practitioners at their patients' bedsides, beyond their value to the patient, are mentally stimulating to the consultant and have great educational value for the physician who calls him. They demand the highest qualities of mind and heart, and always the great medical teachers of the past have been great consultants. They extend the influence of the school beyond its students to the profession of the community. They likewise keep the teacher in touch with the point of view and the needs of the practitioner. They can be declined whenever they conflict with university engagements and entail an absolutely limited and not a continuing obligation. Absolute restriction to hospital practice wipes all this out. Furthermore, neither for physician nor for surgeon does such limitation ensure devotion to the nonmaterial ends of medicine. Hospital routine may become deadening to initiative and productiveness, and exploitation of his position for private gain is as easy as the traditional descent of Avernus. Consultation practice demands the highest ethical standards in dealing with the complex interests of the patient, his physician, and the community. Rarely, if ever, is it attained by a man who has not the confidence and respect of his colleagues and the public, both for his professional attainments and for his moral character. Profitable hospital practice, on the other hand, is a business enterprise, often in competition with the physicians of the community outside the hospital circle, and its methods tend to approximate those of successful business and its standards those of commercial ethics. Experience has abundantly proved that a large private service in a hospital can as effectively remove a professor from his true university work as engagements outside the hospital walls. Worst of all, the building up of a large private ward service is so profitable to the hospital that community of interest with the successful physician may insidiously weaken the vital relation between hospital and university, without which no university clinic can exist.

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The second plan seeks more wisely to restrict the teacher's activity by the indirect method. It lays upon him but one prescription. He must receive personally no fee for professional services. He is left the sole arbiter of his duty. He may see private patients when and where he likes, but he is to be paid a salary which makes it possible for him to live without supplementing his income, and thus it is assumed that all temptation to become engrossed in a pecuniarily profitable practice is removed. The so-called whole-time plan has thus a positive side, liberal endowment of the clinical departments, which is bound to promote their development. It seems to me clear that, if restrictive methods are to be relied on for the creation of true university professors of medicine and surgery, it is the least objectionable. But will this plan ensure that the younger assistants who grow up in this somewhat cloistered seclusion shall become masters of their art? Only experience can answer, and the plan has been in operation too short a time for experience to be vocal. Certain disadvantages could be foreseen in its operation and others have, in my opinion, developed.

First of all is the rigidity of the system. It does not sufficiently take account of the widely varying aptitudes of different men. For the man who is a born investigator it is ideal, and, by the same token, unnecessary. He will never become entangled in private practice. For the young man who does not quite know his own mind and whose talents are not yet clearly discernible, it requires at the outset that he shall determine whether his career in medicine is to be academic or practical. If he chooses the former, and after five or ten years finds that he has made a mistake, he must make a fresh start in life with the handicap of great loss of initiative in the competitive work of a practitioner. This loss of initiative and tendency toward easy acquiescence in a rather routine and sheltered life is a second danger. There is no place in this world for a clinical teacher who is lazy. All the energy a man possesses is needed to acquire the many sided education which I have already described. The stimulus of an occasional pecuniary reward may be beneficial rather than deleterious to a man who tends to work in his laboratory and neglect the practical side of his training.

This is, to my mind, the crucial difficulty in the operation of the whole-time plan. The experience of one man in one place is not sufficient to determine whether the defect is remediable or fatal, temporary or permanent. While I can only discuss it from the standpoint of just such a limited experience, nevertheless I cannot avoid considering it in some detail.

Looked at from the point of view of the young man ambitious to become a great clinician, or of the professor anxious to remain one, the whole-time plan unfailingly determines that his education shall be wholly within the hospital. The reason for this is twofold. First, the physician lacks any incentive to take time from laboratory researches to seek practice outside, and he is impressed with its inferior scientific value. Few men will consistently exercise in a gymnasium for the sake of their physical development, but must have the stimulus of competition, achievement or companionship which sports afford. Likewise, few medical men will voluntarily exercise their mental powers on practical problems which are not imposed on them by necessity or sought from taste. If the latter, the man goes into practice and never enters a whole-time clinic. The former motive, necessity, the whole-time clinic exists to remove. In the second place, patients will not call a physician, either as practitioner or as consultant, except in rare instances, when they know that he is giving his services to them without any possibility of personal compensation by them. The arrangement is obnoxious to the sense of justice and the self-respect of most persons. It makes them recipients of the physicians' charity. Therefore the staff of a whole-time clinic will in the long run care only for such private patients as seek the hospital, not the physician, and these are apt to be the least desirable of all patients.

Now, in a hospital, every one works as part of a team. No one man does everything in the study and care of any individual patient, and therefore a mistake or omission on the part of any single member of the staff is minimized or offset by some other member's diligence. This is the indispensable condition for training young physicians without jeopardizing the welfare of the patients. In equal measure, it becomes an obstacle in the training of the more mature. It is of the essence of education that it is vital in proportion as it is acquired out of real and important problems. The problems of a hospital are all real, but only occasionally is the part of the professor or his higher assistants important in relation to them. Most would be solved equally well without their help. Their part is indirect, in organizing and supervising the work of the staff, and ensuring the best training of its younger members. A sense of deep individual responsibility, so essential in making and keeping a man a good physician, and which is assured by the acceptance of money for his services, is therefore lacking for the upper members of a hospital staff. For this reason I fear that, however much of compensating advantage the whole-time plan possesses, it will produce a type of teacher who is inferior as a clinician to the teacher-consultants of the past.

There is also the risk of a "holier than thou" attitude of mind on the part of those whose careers are academic and sharply contrasted with the rank and file of the profession, and of creating invidious discriminations against the academic status of the consultant who gives part of his time to teaching, a man of great value in any scheme of medical education. The scheme does not sufficiently take account of the versatility of exceptional men who may be brilliant teachers and consultants and also find time for publications of a high order. Laborious researches are not always the ones which advance medicine. Neither does it safeguard the professor as he grows older from spending his leisure in an easy chair, deteriorating professionally, when some contact with active practice might keep him wide awake. Early senility is not so rare in academic circles that it should wholly be left out of the reckoning in beneficent schemes for academic longevity. Like the previous plan, it inevitably tends to expose the head of the department, who is always accessible in his hospital, to an increasing burden of petty administrative detail. Without constant vigilance on his part he may become a superior resident physician and actually have less leisure for his professional problems than if he spent but half a day in the hospital and were never expected back until the next morning.

Finally, there is an objection which weighs heavily with many men of high spirit, namely, that under this plan the university says to him, "You alone of our professors can I not trust to perform your university duties, if I give you full opportunity and full freedom." This, I am persuaded, stamps the plan as a temporary expedient for the present correction of existing abuses, which were being outgrown more slowly than those who had the interest of medical education deeply at heart wished. So long, however, as the university cannot trust the professor of medicine or the professor of surgery with that freedom which is the most prized possession of the university teacher, just so long is it acknowledged that these men are not in the full sense university professors.

Two other plans seem to me to deal with the problem in a constructive, and not a destructive, spirit, and to be more likely of ultimate success. One is the German method, unfortunately inapplicable here with our strict separation into classes, which deprives the student of the choice of his own professor. When the professor derives his income, not from a fixed salary but from the fees of his students, he has an effective stimulus toward taking his university duties seriously. This, however, seems scarcely worth discussing in this country, though freer interchange of students between institutions would be wholly desirable.

A second constructive plan, compatible with the constitution of our medical schools, I wish to suggest for your consideration and criticism. It contains but one element of difference from ordinary academic practice. The five essential points in it are as follows:

1. That the clinical teachers be chosen because of their possession of the same qualities which govern choice for other university positions, and which are the qualities I have already described at the beginning of this discussion. Such selections should be absolutely without geographical limitation, the best man being called wherever he may be found. This is becoming more and more the rule in America, in place of the former custom of choosing the most successful local practitioner. It is, in my opinion, nine tenths of the solution of the entire problem, whatever plan of dealing with outside engagements may be adopted.

2. The provision of adequate facilities for laboratory investigation, hand in hand with clinical training, for every member of the department staff. This means a hospital with a varied service, with abundant autopsies, and with laboratories of the several types already mentioned, under the exclusive control of the head of the clinic. Lack of laboratory facilities to become investigators, rather than love of the dollar, has been the chief reason for the sterility of American clinicians in the past, and those that have proper facilities today are proving the enthusiasm for productive research which the young medical men of this country possess. Consulting offices should be provided in the hospital for the older members of the staff and a small, never a large, private service.

3. Salaries sufficiently ample to make outside practice for a living unnecessary, especially for the younger men who show ability as investigators. Such men should be kept out of practice until research becomes a fixed habit. Salaries

should be proportioned to the time given to teaching and research. It is possible that some plan similar to the profit-sharing plans of our most high-minded business enterprises could be worked out, which would emphasize the essential team work of modern hospital care of private patients; but I dread any arrangement which increases the importance of the private ward service of the hospital.

4. Entire freedom for every member of the staff to develop into practitioner, consultant, teacher or investigator, as may best suit his bent, each to contribute to the department what he can give; but original appointment, reappointment, and promotion alike to be for true university accomplishment. Here is where the ideal must be enforced, not by prohibitions and the limitation of freedom.

5. The one distinction which I would make from ordinary university practice is based upon the fact that the hospital clinic is in the nature of a monopoly put into the hands of the professor and which contains the potentialities of exploitation for private gain. This should not be tolerated in a university. Neither should exploitation of the professor by his institution be possible. In my opinion abuse of their positions by clinical teachers can be most easily controlled by making all appointments term-appointments, not even the professor to hold his chair for life. The reason for life tenure for the university professor is that the older he grows in the university service, and the more valuable in his devotion to his subject, the less capable he becomes of earning his living in any other way. The professor of medicine or surgery, on the other hand, by virtue of his very position, acquires an increasing money value. The more illustrious he becomes, as the university should wish him to become, the greater is his potential earning power. If he is free to make his choice, it is no hardship that at the end of each three to five years it should be possible for the university to say to him, "You have demonstrated that your days of true university usefulness are over, and you must go out to that practical success which you have made certain by your career with us, and a younger man must take your place." This will not rob the community of the mature judgment of men who may have lost any great power of original research, and it will work no hardship on any individual. Furthermore, it will be consonant with that true academic freedom, without which scholarship and search for truth and for mastery over nature will certainly languish.

In conclusion, let me say that I have taught in three medical schools and in four hospitals, and have been an unpaid instructor, a professor giving part of his time to consulting practice and a well paid, full-time teacher: therefore, I can speak from some personal experience. I know that the conduct of a large clinical department along university lines requires a man's best thought and effort. Only a small fraction of his time can he spare for outside engagements, professional or other. He must give to teaching and administrative duties, to his staff and his wards, more time than any of his colleagues in the university devote to routine, and he must keep up with an enormous literature and do research besides. To earn any considerable part of his own living is manifestly impossible. But as well say that he must not be a good musician, or a devotee of chess, as to insist that he must never sharpen his wits on a case that has puzzled some physician outside the hospital who wishes his help. If he is to do this, it is unnatural and repugnant to the patient's sense of justice that he should not receive the usual fee for such service. No inconsiderable part of my own knowledge of medicine, upon which I now draw in teaching, has been derived from just such outside engagements. Without them I should today be a far poorer educator of physicians. Had the time I gave to them been devoted to laboratory investigations, it is possible that I should have contributed more to medicine, and should now conduct a more productive clinic, but it is by no means certain. The true investigator is born, not made. He should be shielded from harm at any cost when he is young. Seldom is it wise to burden him with even the executive duties of the head of a department. There should be a place for such rare men in clinical departments, and ample money to support them.

For the rest, one man may be valuable to the clinic because of his ability to train students in methods, another for his encyclopedic knowledge, a third for his suggestiveness. Specialists are vital to progress, but all around men are indispensable to sane teaching. The widest variety of interest will create the strongest department, and men of varied interest cannot be produced by any single type of training. For this reason I am of the opinion that, if the liberal support for research provided by the whole-time plan could be secured without its limitations, the ends of medical education would be best served. If some men are lost to the university in their prime, none need be kept to outlive his usefulness as a teacher. The clinic might have a younger head, but it would always have his best years. Some men will cut off all outside engagements from choice, and some clinics will require all of the professor's time during the academic year.

I would conclude, therefore, that outside professional engagements may be desirable for most members of medical faculties at some period of their careers, and that clinical teachers who engage in some outside practice are necessary in any scheme of medical education. Uniformity of environment is not the distinctive feature of the university, but unity of purpose.

Johns Hopkins University.

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Maine November Examination

Dr. Adam P. Leighton, Jr., secretary of the Maine Board of Registration of Medicine, reports the written examination held at Portland, Nov. 8-9, 1927. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Of the 14 candidates examined, 13 passed and 1 failed. Four candidates were licensed by reciprocity. The following colleges were represented:

PASSED	Year Grad.	Per Cent
College of Medical Evangelists	(1927)	81
Yale University School of Medicine	(1926)	84.9
Boston University School of Medicine	(1903) 82; (1927)	81
Harvard University Medical School	(1925)	86
Tufts College Medical School	(1924) 85; (1927) 77, 79.8,	81, 84
Dartmouth Medical School	(1901)	78
Long Island College Hospital	(1926)	75
Laval University Faculty of Medicine	(1926)	76.3

FAILED	Year Grad.	Per Cent
Laval University Faculty of Medicine	(1925)	50.2

LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Harvard University Medical School	(1905)	California
Columbia Univ. College of Physicians and Surgeons	(1913)	New Jersey
Western Reserve University School of Medicine	(1925)	Ohio
University of Vermont College of Medicine	(1911)	Vermont

Idaho June Examination

Hon. F. E. Lukens, Commissioner of Law Enforcement of the Idaho Medical Examiners, reports the written examination held at Boise, June 27, 1927. The examination covered 13 subjects and included 130 questions. An average of 75 per cent was required to pass. Fourteen candidates were examined, all of whom passed. The following colleges were represented:

PASSED	Year Grad.	Per Cent
University of Colorado School of Medicine	(1903) 86; (1911)	84
Denver and Gross College of Medicine	(1903)	86, 91
George Washington University Medical School	(1910)	85
Bennett Medical College, Chicago	(1907)	84
Northwestern University Medical School	(1905)	84
Rush Medical College	(1897) 77; (1907)	85
Barnes Medical College, St. Louis	(1907)	77
Eclectic Medical University, Kansas City	(1914)	81
Missouri Medical College, St. Louis	(1897)	77
Jefferson Medical College of Philadelphia	(1907)	83
Trinity Medical College, Toronto	(1900)	90

Book Notices

HANDBOOK FOR THE MEDICAL SOLDIER OF THE REGULAR ARMY, NATIONAL GUARD, ORGANIZED RESERVES, AND ENLISTED RESERVE CORPS OF THE ARMY OF THE UNITED STATES AND OTHERS INTERESTED IN NATIONAL MEDICO-MILITARY PREPAREDNESS. By Arnold Dwight Tuttle, Major Medical Corps, U. S. Army. Approved by the Surgeon General of the Army. Leather. Price, $5. Pp. 691, with 180 illustrations. New York: William Wood & Company, 1927.

Soldiering in these days may be called a profession. Most officers are military specialists and much of the work of soldiers is with instruments developed after extensive scientific investigations. One great function of the army in peace time is the training of personnel; so there are schools to teach general staff duty, an infantry school, a cavalry school, a coast artillery school, aviation schools and others. The medical department of the army likewise has schools. There is a medical school, a veterinary and a nurses' school in Washington, and a medical field service school at Carlisle Barracks, Pa., where officers do graduate work in branches that especially apply to military medicine. By no means is all the instruction of the medical department carried on at these schools. There are not many medical detachments (and they are scattered throughout the country) that do not have a schedule of instruction for enlisted men. This book is intended to be the guide for that work. It is the successor to Mason's handbook, which for years unofficially was called the medical soldier's bible. The present handbook is much smaller than its predecessor. It requires less of the small amount of space usually allowed for soldier's equipment. Major Tuttle, the author, has had a most varied experience in military medicine, as the surgeon general notes in the foreword. The chapter on the army was probably suggested by the great changes that have taken place since the World War. It will start the medical soldier off on his enlistment with a general understanding of the great organization of which he is a part. Much of the book gives basic facts on anatomy, physiology, materia medica and pharmacy, with directions how to make up and use solutions, pills, ointments, powders and the like. A chapter deals with the purification of drinking water in the field, the ventilation of barracks and tents, disposal of wastes, importance of mosquitoes and flies, the care of the feet, and the sanitation of camp sites. First aid is a subject drilled into medical soldiers almost as much as infantry men are drilled with guns. The medical soldier learns here how to apply bandages, how to sterilize instruments, how to move patients and many other duties for the care of the sick. There are instructions on the preparation of the forms and papers so necessary in large organizations, strange as it may seem. A medical soldier must be able to care for and drive animals and motors. He knows not when he may turn from the sickroom to hitching up mules or driving a car. These subjects are discussed. The book deserves commendation. Its value to the enlisted man might have been increased had there been more pictures; however, the author knew there is always in the army a premium on space.

NEOPLASTIC DISEASES. A Treatise on Tumors. By James Ewing, A.M., M.D., Sc.D., Professor of Pathology at Cornell University Medical College, New York City. Third edition. Cloth. Price, $14 net. Pp. 1127, with 546 illustrations. Philadelphia: W. B. Saunders Company, 1928.

The aim of Ewing's great book has been widely known since the first edition (1919). In the present edition the purpose remains the same; namely, to present the subject of the origin, structure and natural history of tumors within reasonable space and to combat the impression which still prevails in some quarters that tumors may be grouped in a limited number of grand classes. The author is convinced that this point of view has greatly retarded the progress of the knowledge of tumors. He strives to analyze the numerous etiologic factors that are operative, to emphasize the relation of clinical course to histologic structure, to trace out the histogenesis of tumors, and to indicate clinical features which may be characteristic of different tumors. "No one would think," he writes, "of confusing lobar pneumonia with pneumonic plague, although both are examples of acute exudative pneumonitis, but it is quite the rule to identify for statistical studies several equally different forms of mammary cancer. The former diseases are related only as forms of inflammation, the latter only as types of neoplasms. From this point of view it may safely be said that there are more distinct clinical and pathologic entities within the groups of neoplasms than exist outside of them." The former structure as well as the former aim persists in the present edition. There is the familiar division entitled "General Oncology," of 135 pages and the second division, entitled "Special Oncology," of 935 pages. Information available from the Codman Registry of Bone Sarcoma has made it possible to rewrite the chapter on tumors of the bones. The classification of mammary cancer has been simplified and made to accord more with clinical varieties. Recent contributions, also, have occasioned changes in the material on brain tumors. Much that is new has been interwoven with the text as it has been revised. About sixty new illustrations have been introduced. Not the least valuable feature of the volume is its exhaustive bibliography.

DISEASES OF THE SKIN. By Henry H. Hazen, A.M., M.D., Professor of Dermatology in the Medical Department of Georgetown University. Third edition. Cloth. Price, $10. Pp. 572, with 248 illustrations. St. Louis: C. V. Mosby Company, 1927.

Hazen's work on skin diseases has for a number of years been well known and popular. This edition has given him the occasion to bring it fully down to date, in doing which, it is to be noted as an evidence of the completeness of previous editions, he has had to add few new subjects. The work is copiously illustrated with well chosen and, for the most part, excellent illustrations, and the book work is likewise commendable.

BABY'S DAILY EXERCISES. A Manual of Exercises for Infants from Five Months to One Year of Age. By Edward Theodore Wilkes, B.S., M.D., Assistant Pediatrician, Out-Patient Department, New York. Cloth. Price, $1. Pp. 77, with illustrations. New York: D. Appleton & Company, 1927.

The time is past when infants were permitted, like Topsy, merely to grow. Nowadays everything they do is ordered for them. Thus Dr. Wilkes presents in a small book a series of exercises for the infant under 1 year of age, which are planned with a view to developing his muscles along proper lines. The exercises are illustrated and the entire process may afford the mother an amusing period of play with the child and at the same time react to the infant's benefit.

THE HISTORY OF BRITISH MIDWIFERY FROM 1650 TO 1800. The Fitzpatrick Lectures for 1927 Delivered Before the Royal College of Physicians of London. By Herbert R. Spencer, M.D., B.S., Consulting Obstetric Physician to University College Hospital. Cloth. Price, 15/-net. Pp. 185, with 9 portraits. London: John Bale, Sons & Danielsson, Ltd., 1927.

The author has incorporated in a sizable book the Fitzpatrick Lectures for 1927. The debt the present generation owes to the British obstetricians of the period mentioned can be appreciated after reading this book, and many who have fondly imagined themselves the originators of new ideas in obstetrics, or new methods of procedure, will be saddened to learn that Pugh did it in 1754, or Ould mentioned it in 1753. Although the Chamberlens lived before the period covered by the lectures, a brief history of the family and of their forceps is given. A few sidelights on the character of Peter Chamberlen, Jr., improve, by a little, the opinion of him but do not by any means lift the opprobrium from the family of having kept the obstetric forceps a secret for so many years. Harvey, Ould, Smellie, Hunter, White, Denman and sixteen other important obstetric lights of British midwifery are given a fair portrayal. White ordered his puerperas to be propped up in bed to favor drainage of the lochia; therefore, properly, obstetricians should put their patients in "White's," not Fowler's, position. The great conservatism and trusting to nature still prevailing in Britain can be traced back to the masters whose works are recorded in this volume. Brief chapters on the midwives, puerperal infection and diurnal obstetric subjects complete the book. Alexander Gordon is given credit for having most clearly pointed out the infectious nature of puerperal infection; without doubt Gordon came nearer to its exact cause than any one up to his time, indeed until Semmelweis. White in 1773 and Gordon in 1795 knew the infectious nature of puerperal infec-

tion, but the *causa causans* they had not learned. This remained for Semmelweis and Pasteur. Any one wishing a quick review of the history of British midwifery cannot do better than to read this attractively written book.

TEXT-BOOK OF BACTERIOLOGY. By William W. Ford, M.D., Professor of Bacteriology, School of Hygiene and Public Health, Johns Hopkins University. Cloth. Price, $8.50 net. Pp. 1069, with 186 illustrations. Philadelphia: W. B. Saunders Company, 1927.

The author provides a textbook of bacteriology in six parts, including general bacteriology, systematic bacteriology, distribution of bacteria, infection and immunity, the spirochetes and infectious micro-organisms of undetermined character. The book is much more detailed than the smaller book by Professor Jordan, its first part alone representing approximately the general nature of the Jordan volume. It provides staining and cultural methods and laboratory technic sufficient to make an extra handbook of technic unnecessary. An excellent chapter of systems of classifications describes the various methods heretofore followed, and recommends that of the committee of the Society of American Bacteriologists, which, so far as possible, the author follows in the present volume. The book is well illustrated with original drawings of bacterial organisms, some in colors. Special attention has been paid to the subject of spirochetes, which the author believes has not had adequate consideration in previous volumes. The material is sound and so comprehensive that the book may well be recommended not only as an excellent textbook but also as an especially valuable reference work for the practicing physician.

DIE KOLLAPSTHERAPIE DER LUNGENTUBERKULOSE MIT BESONDERER BERÜCKSICHTIGUNG DES KÜNSTLICHEN PNEUMOTHORAX. Von Primarius Dr. Hanns Maendl, Chefarzt der Heilanstalt Grimmenstein. Paper. Price, 18 marks. Pp. 206, with 116 illustrations. Vienna: Julius Springer, 1927.

This most important work treats of the subject of lung collapse, its technic, dangers and complications. The author says: "As it is now an error of the physician to overlook the indications for operation in cases of perforation of the appendix, for example, so should it be the duty of practitioners to determine the possibilities of applying pneumothorax in cases of pulmonary tuberculosis." The author stresses the value of careful clinical observation and urges the use of lung collapse in desperate cases when it is possible to apply it. Contraindications are considered in extenso. Apparatus and technic are painstakingly described, although, it would seem, with unnecessary attention to detail. However, if the student will follow the rules laid down by the author, he may succeed in becoming expert in this procedure. The effect of collapse therapy on the heart, the unfavorable effect on intestinal tuberculosis, and the subject of effusions resulting from pneumothorax are extensively treated. The author calls attention to the fact that clinical and postmortem observation of intestinal tuberculosis do not always agree. He also says that moderate disease of the contralateral lung is not a contraindication, per se. The book contains chapters on thoracoplasty, phrenicotomy and other interesting points.

PERCIVAL'S MEDICAL ETHICS. Edited by Chauncey D. Leake, Associate Professor of Pharmacology, University of Wisconsin. Cloth. Price, $3. Pp. 291. with illustrations. Baltimore: Williams & Wilkins Company, 1927.

The physician who really wants to know the manner in which our present Principles of Medical Ethics was derived will find the history excellently told in the present volume. The book includes not only a general consideration of the regulation of physicians but also a biography of Thomas Percival and a presentation of his original code and of the various codes of principles of ethics adopted by the American Medical Association from time to time. Like most other critics of the present Principles of Medical Ethics — and almost everyone knows that they can stand a great deal of rewriting and improvement—Dr. Leake occasionally fails to understand some portions simply for the reason that he is not a practicing physician. It is a fundamental fact that the provision of a series of principles of ethics for any professional group must be made by members of that group as well as by outside critics, if they are to endure in any manner as a working code. Space does not permit an analysis of some of the views of Dr. Leake as to state medicine, corporation practice and medical advertising, but it is safe to say that none of these views are 100 per cent sound. His book is, however, a beautiful presentation of the history of Principles of Medical Ethics, and as such merits wide sale and consideration.

AN APPROACH TO THE PSYCHOLOGY OF RELIGION. By J. Cyril Flower, M.A., Ph.D., Upton Lecturer in Psychology of Religion, Manchester College, Oxford. Cloth. Price, $3.50. Pp. 248. New York: Harcourt, Brace & Company, Inc., 1927.

The author conceives of religion as a means of escape for the mind of the human being in times of frustration. He presents numerous definitions of religion and an analysis of the mechanism of religious response. He then describes the religion of the Winnebago Indians and the Peyote cult. A chapter on George Fox, founder of Quakerism, is a consideration of a cultist leader and of the mysticism associated with such leaderships. A chapter on conversion indicates the author's view that it represents the response to need for discriminations which are in excess of mental equipment. A chapter on psychopathology and religion, religion and prehistory and several appendixes complete the volume.

MAX VON PETTENKOFER. His Theory of the Etiology of Cholera, Typhoid Fever and Other Intestinal Diseases; a Review of His Arguments and Evidence. By Edgar Erskine Hume, M.D., Dr.P.H., LL.D., Major, Medical Corps, U. S. Army. Cloth. Price, $1.50. Pp. 142, with illustrations. New York: Paul B. Hoeber, Inc., 1927.

Max von Pettenkofer came to Munich in the middle of the nineteenth century. He found many people dying of typhoid because of infected water and the more sensible ones drinking beer because they were suspicious of the water. Pettenkofer recommended that the wells be abandoned and pure water piped in from the mountain lakes. Munich changed from a disease-ridden city to a healthful one, and Vienna and other cities soon followed its example. Pettenkofer was a chemist, teacher of hygiene and student of human disease. He had rather fixed opinions relative to the nature of cholera and typhoid and their means of transmission which have since been abandoned by all physicians and bacteriologists. All that can be said of him in these modern times is that he defended his views so vigorously and sincerely that they served as a stimulus to the discovery of the actual truth. In this small book Dr. Hume presents a brief biographic view of Pettenkofer and an analysis of his views of cholera and typhoid.

A TEXT-BOOK OF PSYCHIATRY FOR STUDENTS AND PRACTITIONERS. By D. K. Henderson, M.D., F.R.F.P.S., Physician-Superintendent, the Glasgow Royal Mental Hospital, and R. D. Gillespie, M.D., D.P.M., Physician for Psychological Medicine, Guy's Hospital, London. Cloth. Price, $5.50. Pp. 520. London: Oxford University Press, 1927.

Psychiatry makes pace slowly. The authors attempt in the present volume to provide a textbook based on the biologic point of view established by Prof. Adolf Meyer. Mental illness is regarded as the cumulative result of unhealthy reactions of the human mind to its environment. The book serves, as do most of those in this field, to indicate the tremendous amount of material that is still unknown. The presentation itself consists largely of the study of individual cases. The first six chapters dealing with the general views of the subject are models of good writing and succinct presentation. It would be fortunate if every physician were fully familiar with their content.

FOOD INFECTIONS AND FOOD INTOXICATIONS. By Samuel Reed Damon, A.M., Ph.D., Associate Professor of Bacteriology, the Johns Hopkins University School of Hygiene and Public Health. Cloth. Price, $4. Pp. 266, with illustrations. Baltimore: Williams & Wilkins Company, 1928.

Perhaps few other subjects in the field of scientific medicine have received so much revision and study in the past quarter century as has the subject of food infections and food intoxication. That period has marked the passing of the ancient conception of ptomain poisoning and the coming of exact determination of the cause of disturbance following the taking of food. It includes a description of the various bacterial and other parasitic organisms that may attack food supply and through it the human being, as well as the study of such chemical toxins as solanin and ergotoxin. Dr. Damon pre-

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sents his consideration of the subject briefly, with good illustrations and with excellent bibliographic references. Like other products of the press responsible for this volume, the book is a fine example of scientific printing.

VORLESUNGEN ÜBER DAS ZENTRALNERVENSYSTEM DER WIRBELTIERE. Eine Einführung in die Gehirnanatomie auf vergleichender Grundlage. Von Hartwig Kuhlenbech, Dr. med. et phil., Assistent am anatomischen Institut der Universität Breslau. Paper Price, 18 marks. Pp. 354, with 237 illustrations. Jena: Gustav Fischer, 1927.

This comparative anatomy of the central nervous system of vertebrates is a compilation of lectures given to students in Japan by the author. It is a rather rough survey of the entire subject with few details. Many gaps are evident in the work. The book is essentially designed for beginners in neuro-anatomy in that it enables them better to grasp the details of human morphology in the light of phylogeny. It cannot be of service to the advanced student or research worker. A knowledge of the literature abroad indicates that the book is needed in Germany.

THE HARVEY LECTURES. Delivered Under the Auspices of the Harvey Society of New York, 1926-1927. Under the Patronage of the New York Academy of Medicine. By Dr. Fred Neufeld, Dr. Robert Chambers, Dr. Leonor Michaelis, Dr. Joseph Erlanger, Dr. Edgar L. Collis, Dr. Richard Willstätter, and Dr. Merkel H. Jacobs. Series XXII. Cloth. Price, $4. Pp. 164, with illustrations. Baltimore: Williams & Wilkins Company, 1928.

This annual volume of the Harvey Society provides, in addition to the usual data relative to the work of the society, the lectures for 1926 and 1927. The subjects considered are tuberculosis, the nature of the cell, the gastric juice, action potential in the nerve, health and activity, organic chemistry, and the pathology of the red blood cell. The authors are leaders of research in the fields concerned and the lectures mark progress in each topic.

SEX AND REPRESSION IN SAVAGE SOCIETY. By Bronislaw Malinowski. Cloth. Price, $3.50. Pp. 285. New York: Harcourt, Brace & Company, Inc., 1927.

Our minds and habits of thought represent the evolution of centuries of thinking. The customs of the savage races of today mirror the periods of the beginning of man. Through a study of Melanesian methods and manners, Malinowski has developed definite views regarding our own customs. Through this study he runs afoul of the psychoanalysts and he finds it necessary to devote at least half his book to answering the criticisms leveled against his views by Dr. Ernest Jones.

A SHORT MANUAL OF INDUSTRIAL HYGIENE. For Managers, Foremen, Forewomen and Industrial Supervisors Generally. By Leonard P. Lockhart, M.A., M.B., B.Ch., Medical Officer, Messrs. Boots Pure Drug Co., Ltd., Nottingham. With a foreword by the Rt. Hon. Lord Invernairn. Cloth. Price, 3/6d. net. Pp. 114, with illustrations. London: John Murray, 1927.

This book has been prepared by the author for managers and industrial supervisors. It presents briefly the basic facts of the care of health in industry, including factory hygiene, personal hygiene, common diseases, the cost of accidents and method of prevention, and advice to young employees. The final chapter puts greatest emphasis on fatigue and monotony in industry. Associated with this is a brief essay on posture. The book concludes with a philosophical quotation which is after all the secret of happiness in work. Plutarch says, "Choose the best life; habit will make it agreeable."

GROWING UP. The Story of How We Become Alive, Are Born and Grow Up. By Karl de Schweinitz. Cloth. Price, $1.75. Pp. 111, with illustrations. New York: Macmillan Company, 1928.

Few contributions to the literature especially prepared for the adolescent on what are called the "facts of life" are as handsomely illustrated, as well printed, or as succinct as this little book. It was read by a girl of 14 and a boy of 12 with the greatest of interest. The questions they asked after reading indicated a comprehension of the subject. The author recognizes the importance of parental consultation with the child during and after the reading of the book. Physicians who believe that children at about the age of puberty should have sound information on sexual relationships and the birth of children will find this book exceedingly helpful.

GROWTH OF OUR KNOWLEDGE OF HEART DISEASE. By R. O. Moon, M.A., M.D., F.R.C.P., Consulting Physician to the Royal Waterloo Hospital. Cloth. Price, $1.40. Pp. 86. New York: Longmans, Green & Company, Ltd., 1927.

In this small book the author has collected chiefly by association with the names of great discoverers some observations that have been made on the heart and its diseases. He begins with Hippocrates as the first scientific observer, and shows how views have changed in our modern times. Unfortunately the words "focal infection" do not appear anywhere in the course of the book, and for a modern reader it is therefore entirely out of perspective.

THE INFANCY OF MEDICINE. An Enquiry into the Influence of Folk-Lore upon the Evolution of Scientific Medicine. By Dan McKenzie, M.D., F.R.C.S.E., F.S.A. Cloth. Price, $6. Pp. 421. New York: Macmillan Company, 1927.

In no other volume is there available, so far as the reviewer knows, any such excellent summaries of folk-lore as related to medicine as in this volume by Dr. McKenzie. It includes chapters not only on the evolution of medicine itself but also on the evolution of the remedies used by modern physicians, on astrology, healing springs, colors, numbers, the evil eye, and the superstitions associated with obstetrics and surgery. While the material is not perfectly organized, it is well developed and excellently indexed. The book is elaborated, furthermore, with extensive bibliographies covering each of the chapters, which serve as a guide to the reader who wishes to make more extensive investigation. The background of medicine in mysticism and in magic is here made interestingly apparent.

BAKTERIOLOGISCHES TASCHENBUCH. Die wichtigsten technischen Vorschriften zur bakteriologischen Laboratoriumsarbeit. Von Prof. Dr. Otto Olsen, a. o. Professor für Hygiene und Bakteriologie an der Universität Berlin. Twenty-eighth edition. Cloth. Price, 3.30 marks. Pp. 166. Leipsic: Curt Kabitzsch, 1927.

This small handbook for bacteriologic laboratory workers contains descriptions of technical laboratory procedures and certain characteristics of pathogenic micro-organisms. It will be of little interest to American workers.

THE PEAKS OF MEDICAL HISTORY. An Outline of the Evolution of Medicine for the Use of Medical Students and Practitioners. By Charles L. Dana, A.M., M.D., LL.D., Professor of Nervous Diseases, Cornell University Medical College. Second edition. Cloth. Price, $3. Pp. 105, with 59 illustrations. New York: Paul B. Hoeber, Inc., 1928.

The second edition of this fine little summary of the growth of scientific medicine has been made necessary by the exhaustion of the first printing. Dr. Dana has taken advantage of this edition to correct a few minor typographic and other inaccuracies in the first volume. The book may be considered one of the best small compends of the history of medicine available in English.

FIGHTERS OF FATE. A Story of Men and Women Who Have Achieved Greatly Despite the Handicaps of the Great White Plague. By J. Arthur Myers, Associate Professor of Preventive Medicine, Medical and Graduate Schools, University of Minnesota. With an introduction by Charles H. Mayo, Mayo Clinic, Rochester, Minnesota. Cloth. Price, $3. Pp. 318. Baltimore: Williams & Wilkins Company, 1927.

Here are briefly the life stories of men and women who have won success in life although afflicted early with tuberculosis. One finds them in every phase of human activity, including commerce, literature, music, art, medicine, baseball and the drama. The list is imposing:

Roger W. Babson	Christopher Mathewson
Harold Bell Wright	Will Irwin
Elizabeth B. Browning	Eugene O'Neill
Frederic Chopin	Sidney Lanier
Artemus Ward	Edward L. Trudeau
Nicolo Paganini	Cecil John Rhodes
Johann Frederic Schiller	Aubrey Beardsley
Xavier Bichat	McDugald McLean
René Theodore Laënnec	Lawrason Brown
John Keats	Henry David Thoreau
St. Francis of Assisi	Fedor Dostoievsky
Leigh Hunt	Albert Edward Wiggam

Dr. Myers tells their stories with a fine sense of drama and conveys human pictures to his readers. His book should be in every institution for the tuberculous as an inspiration to those who may need mental uplift.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

LE SERVICE DE SANTÉ PENDANT LA GUERRE 1914-1918. Médecin Inspecteur Général A. Mignon. Tome I. (années 1914-1915). Premières opérations militaries et stabilisation. Tome II. Le service de santé a Verdun. Tome III. Le service de santé dans les grandes offensives. (Juillet 1916-Novembre 1918). Tome IV. L'évolution du service de santé pendant la guerre 1914-1918. Paper. Price, 240 francs. Pp. 697, 689, 706 and 831, with illustrations. Paris: Masson & Cie, 1928.

The French medical history of the World War.

RÖNTGENDIAGNOSTIK DER ERKRANKUNGEN INNERER ORGANE, IN TABELLENFORM. Von Dr. Emmerich Markovits, leitender Arzt der Röntgenlaboratoriums im Sanatorium auf der Margareteninsel in Budapest. Mit Vorwort von Prof. Dr. G. Holzknecht, Vorstand des Zentral-Röntgeninstitutes des Allgemeinen Krankenhauses in Wien. Paper. Price, 13.50 marks. Pp. 198, with 390 illustrations. Leipsic: Georg Thieme, 1928.

Systematic tabular presentation of differential diagnosis in radiology.

DEUTSCHER GYNÄKOLOGENKALENDER. Biographisch-Bibliographisches Verzeichnis der deutschen Frauenärzte. Herausgegeben von Prof. Dr. W. Stoeckel, Geh. Med.-Rat. Direktor der Univ.-Frauenklinik, Berlin. Bearbeitet von Dr. Friedrich Michelsson. Paper. Price, 12 marks. Pp. 324. Leipsic: Johann Ambrosius Barth, 1928.

A list of obstetricians and gynecologists of Germany with biographic and bibliographic data.

POST-MORTEM APPEARANCES. By Joan M. Ross, M.D., B.S., M.R.C.S., Senior Assistant Pathologist to Royal Free Hospital. With preface by E. H. Kettle, M.D., Professor of Pathology and Bacteriology, Welsh National School of Medicine, Cardiff. Second edition. Cloth. Price, $2.50. Pp. 225. New York: Oxford University Press, 1928.

Brief handbook of postmortem technic with advice on pathologic diagnosis.

THE PHYSIOLOGY OF EXERCISE. A Text-Book for Students of Physical Education. By James Huff McCurdy, A.M., M.D., M.P.E., Director of Physical Education Courses in the International Young Men's Christian Association College, Springfield, Mass. Second edition. Cloth. Price, $3 net. Pp. 270, with 13 illustrations. Philadelphia: Lea & Febiger, 1928.

Fine accumulation of important physiologic data on exercise and athletics.

DIABETES: Its Treatment by Insulin and Diet. A Handbook for the Patient. By Orlando H. Petty, A.M., M.D., F.A.C.P., Professor of Diseases of Metabolism, Graduate School of Medicine, University of Pennsylvania. Fourth edition. Cloth. Price, $2 net. Pp. 155, with 9 illustrations. Philadelphia: F. A. Davis Company, 1928.

New and revised edition of efficient manual for diabetic patients.

PRACTICAL DIETETICS FOR ADULTS AND CHILDREN IN HEALTH AND DISEASE. By Sanford Blum, A.B., M.S., M.D., Head of Department Pediatrics, San Francisco Polyclinic and Post Graduate School. Third edition. Cloth. Price, $4 net. Pp. 380. Philadelphia: F. A. Davis Company, 1928.

New edition of a compilation of dietetic information.

DIE ERNÄHRUNG GESUNDER UND KRANKER KINDER. Für Ärzte und Studierende der Medizin. Von E. Nobel, Univ.-Professor, C. Pirquet, Univ.-Professor, und R. Wagner, Privatdozent der Universitäts-Kinderklinik in Wien. Second edition. Paper. Price, 12 marks. Pp. 159, with 85 illustrations. Vienna: Julius Springer, 1928.

New edition of the Pirquet infant feeding.

TRAITEMENT DES FRACTURES PAR LE PRATICIEN. Par le Docteur Étienne, professeur agrégé, chargé du cours de pathologie externe à la Faculté de médecine de Montpellier. Préface du Pr. Jeanbrau. Price, 16 francs. P. 194, with 145 illustrations. Paris: Masson & Cie, 1927.

Handbook on fractures of little value to American readers, who have available better American guides.

BRAIN AND MIND OR THE NERVOUS SYSTEM OF MAN. By R. J. A. Berry, M.D., F.R.C.S., F.R.S., Dean of the Faculty of Medicine in the University of Melbourne. Cloth. Price, $8. Pp. 608, with 131 illustrations. New York: Macmillan Company, 1928.

Neurology with accent on the correlation of thought and sensation with brain structure.

THE SURGICAL TREATMENT OF MALIGNANT DISEASE. By Sir Holburt J. Waring, M.S., M.B., B.Sc., Surgeon to and Joint-Lecturer in Surgery at St. Bartholomew's Hospital and Medical College. Cloth. Price, $15. Pp. 667, with 296 illustrations. New York: Oxford University Press, 1928.

Beautifully printed and well illustrated discussion of the special surgery of cancer.

THE ABDOMINAL SURGERY OF CHILDREN. By L. E. Barrington-Ward, Ch.M., F.R.C.S., Surgeon, Hospital for Sick Children, Great Ormond Street. Cloth. Price, $4.50. Pp. 283, with illustrations. New York: Oxford University Press, 1928.

Monographic presentation of intussusception, pyloric stenosis and similar subjects.

KONSTITUTIONSSEROLOGIE UND BLUTGRUPPENFORSCHUNG. Von Dr. Ludwig Hirszfeld, stellvertretender Direktor des staatlichen Hygiene-Instituts, Warschau. Paper. Price, 18 marks. Pp. 235, with 12 illustrations. Berlin: Julius Springer, 1928.

The last word on blood grouping and racial relationships.

DIE AKUTE MITTELOHRENTZÜNDUNG ALS KINDERKRANKHEIT. Von Dr. Adolf Fr. Hecht, Privatdozent für Kinderheilkunde an der Universität Wien. Paper. Price, 7.80 marks. Pp. 126, with 23 illustrations. Vienna: Julius Springer, 1928.

Monograph on otitis media as a general disease of children.

THE BASIS OF SENSATION. The Action of the Sense Organs. By E. D. Adrian, M.D., F.R.C.P., F.R.S., Fellow and Lecturer of Trinity College, Cambridge. Cloth. Price, $2.50. Pp. 122, with 31 illustrations. New York: W. W. Norton & Company, Inc., 1928.

Brief discussion of the physiology of the special senses.

ABOUT OURSELVES. Psychology for Normal People. By H. A. Overstreet, Professor and Head of the Department of Philosophy, College of the City of New York. Cloth. Price, $3. Pp. 300. New York: W. W. Norton & Company, Inc., 1927.

Popular account of the psychology of everyday life.

STÖRUNGEN DES TRIEB- UND AFFEKTLEBENS (DIE PARAPATHISCHEN ERKRANKUNGEN). Band X. Zweiter Teil. Zwang und Zweifel. Von Dr. Wilhelm Stekel. Paper. Pp. 72, with 1 portrait. Berlin: Urban & Schwarzenberg, 1928.

Second volume of Stekel's views on anxiety states.

GRENZEN DES NORMALEN UND ANFÄNGE DES PATHOLOGISCHEN IM RÖNTGENBILDE. Von Prof. Dr. Alban Köhler, Facharzt für Röntgenologie in Wiesbaden. Fifth edition. Cloth. Price, 38 marks. Pp. 582, with 324 illustrations. Leipsic: Georg Thieme, 1928.

More typical roentgenograms with discussions.

LA TRANSFUSION DU SANG DE L'ANIMAL À L'HOMME. Par René Cruchet, professeur à la Faculté de médecine de l'Université de Bordeaux, A. Ragot, médecin de la marine, et J. Caussimon. Paper. Price, 12 francs. Pp. 106, with 13 illustrations. Paris: Masson & Cie, 1928.

Practical aspects of blood transfusion.

IDIOSYNCRASIES. By Sir Humphry Rolleston, Bart., K.C.B., F.R.C.P. Boards. Price, 2/6 net. Pp. 119. London: Kegan Paul, Trench, Trubner & Company, Ltd., 1927.

Popular discussions of unusual reactions of the human body to various substances.

CHILDBIRTH. An Outline of Its Essential Features and the Art of Its Management. By William George Lee, A.B., M.D. Cloth. Price, $3. Pp. 300, with illustrations. Chicago: University of Chicago Press, 1928.

Well printed textbook for physicians, nurses and allied professions.

L'HYPERTENSION ARTÉRIELLE SOLITAIRE: Essai critique. Recherches cliniques, étiologiques et pathogéniques. Par L. Pellissier. Paper. Price, 30 francs. Pp. 272. Paris: Masson & Cie, 1927.

Monograph on hypertension but nothing conclusive.

AN EXPERIMENT ON THE LINES OF SOCIAL HYGIENE IN THE FAR NORTH OF SWEDEN. Organized by the Swedish National Association against Tuberculosis, together with a Study on the Dissemination of Tuberculosis in Sweden. By Gustaf Neander, M.D., Secretary General of the Swedish National Association against Tuberculosis. Translated from the Swedish by Grenville Grove, translator to the British Legation, Stockholm. The „Hälsan" Institute in Norrbotten. Paper. Pp. 127, with illustrations. Copenhagen: Levin & Munksgaard, 1928.

THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY IN THE WORLD WAR. Volume XIII. Part 1. Physical Reconstruction and Vocational Education. By Maj. A. G. Crane, S. C. Part 2. The Army Nurse Corps. By Julia C. Stimson, Superintendent, Army Nurse Corps. Prepared under the direction of Maj. Gen. M. W. Ireland, the Surgeon General. Cloth. Price, $3. Pp. 998, with illustrations. Washington: Government Printing Office, 1927.

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THE PRACTICAL MEDICINE SERIES COMPRISING EIGHT VOLUMES ON THE YEAR'S PROGRESS IN MEDICINE AND SURGERY. Under the General Editorial Charge of Charles L. Mix, A.M., M.D. The Eye, Ear, Nose and Throat. Edited by Charles P. Small, M.D., Albert H. Andrews, M.D., and George E. Shambaugh, M.D. Cloth. Price, $2.50. Pp. 526, with illustrations. Chicago: Year Book Publishers, 1927.

DIE CHIRURGIE. Eine zusammenfassende Darstellung der allgemeinen und der speziellen Chirurgie. Herausgegeben von Prof. Dr. M. Kirschner, und Prof. Dr. O. Nordmann. Lieferung 22. Band II., Teil I. Chirurgie der Haut und des Unterhautzellgewebes. Von Dr. Fr. Ascher. Paper. Price, 22 marks. Pp. 603-866, with 75 illustrations. Berlin: Urban & Schwarzenberg, 1928.

GEBURTSHILFLICH-GYNÄKOLOGISCHE PROPÄDEUTIK. Eine theoretische und praktische Einführung in die Klinik und in die Untersuchungskurse. Von Prof. Dr. Oscar Polano, Vorstand der gynäkologischen Universitäts-Poliklinik München. Fifth edition. Cloth. Price, 12.60 marks. Pp. 224, with 110 illustrations. Leipsic: Curt Kabitzsch, 1928.

MORTALITY STATISTICS, 1925. Twenty-Sixth Annual Report. Part 1. Summary and Rate Tables and General Tables for the Death Registration Area in Continental United States, with Supplemental Statistics for Hawaii and the Virgin Islands. Cloth. Price, $2. Pp. 463. Washington, D. C.: Supt. of Doc., Government Printing Office, 1927.

L'URÉE (RECHERCHES DE CHIMIE ANALYTIQUE, BIOLOGIQUE ET AGRICOLE). Les fonctions dinaphtopyranol, xanthydrol et sel de pyryle (chimie organique). Par Richard Fosse, professeur de chimie organique à la Faculté des sciences de Lille. Boards. Pp. 303. Paris: Les Presses Universitaires de France, 1928.

L'INFECTION BACILLAIRE ET LA TUBERCULOSE CHEZ L'HOMME ET CHEZ LES ANIMAUX. Processus d'infection et de défense, étude biologique et expérimentale vaccination préventive. Par A. Calmette. Third edition. Paper. Price, 125 francs. Pp. 883, with illustrations. Paris: Masson & Cie, 1928.

LE SYNDROME MALIN DANS LES MALADIES DE L'ENFANCE. Par V. Hutinel, professeur honoraire de clinique médicale infantile. Aperçu de clinique et de pathologie générale infantile. Paper. Price, 32 francs. Pp. 308, with illustrations. Paris: Masson & Cie, 1927.

THE MYSTERIES OF OUR UNKNOWN WORLD. A Series of Essays Discussing the Veiled and Often Misconstrued Facts Relating to Our Universal Existence. By Joseph A. Hodam, M.D. Leather. Price, $3. Pp. 186. St. Louis: Union Research Association, 1928.

ÉLÉMENTS DE LA PHYSIQUE DES RAYONS X. Introduction a la radiologie médicale et a l'étude générale des rayonnements. Par F. Wolfers, agrégé de l'université. Paper. Price, 25 francs. Pp. 336, with illustrations. Paris: J. Hermann, 1928.

TRANSACTIONS OF THE AMERICAN OTOLOGICAL SOCIETY, SIXTIETH ANNUAL MEETING NEW YORK ACADEMY OF MEDICINE, NEW YORK CITY, May, 1927. Volume XVII. Part 3. Paper. Pp. 571-815, with illustrations. The Society, 1927.

CLINIQUE MÉDICALE DE L'HÔPITAL BEAUJON. Par Ch. Achard, professeur de clinique médicale à la Faculté de médecine de Paris. Troisième série. Paper. Price, 32 francs. Pp. 323, with 34 illustrations. Paris: Masson & Cie, 1928.

SURGICAL "DONT'S" (AND "DO'S"). By C. Hamilton Whiteford, M.R.C.S., L.R.C.P., Surgical Referee to the Plymouth County Court. Second edition. Paper. Price, 4s. net. Pp. 68. London: Harrison & Sons, Ltd., 1928.

ALGUNAS ANOTACIONES ACERCA DEL PROBLEMA DE LOS CÁNCERES CON REFERENCIA ESPECIAL A SU TRATAMIENTO Y PROFILAXIS. Por el Dr. Conrado Zuckermann, cirujano del Hospital General. Paper. Pp. 149. Mexico, 1928.

I VACCINI ANTIRABICI FENICATI E LORO ODIERNE APPLICAZIONI. Del Dott. Vittorio Puntoni, professore di batteriologia nella r. Università e vice direttore dell'Instituto Antirabico di Roma. Paper. Pp. 116. Rome, 1927.

FORTY-SIXTH ANNUAL REPORT OF THE STATE DEPARTMENT OF HEALTH OF THE STATE OF NEW YORK FOR THE YEAR ENDING DECEMBER 31, 1925. Volume II. Division of Vital Statistics. Paper. Pp. 399. Albany, 1927.

VISAGE ET CUIR CHEVELU. Massage, mobilisation, ultra-violet suivis d'un formulaire pratique. Par le Dr. H. Bulliard. Paper. Price, 13 francs. Pp. 149, with 33 illustrations. Paris: E. Le Francois, 1928.

JEWISH COMMUNAL SURVEY OF GREATER NEW YORK. First Section: Studies in the New York Jewish Population. Cloth. Pp. 45, with illustrations. New York: Bureau of Jewish Social Research, 1928.

REPORT UPON THE WORK OF THE MINERS' PHTHISIS MEDICAL BUREAU FOR THE TWO YEARS ENDED JULY 31, 1926. Paper. Price, 10s. Pp. 75. Pretoria: Government Printing and Stationery Office, 1927.

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Miscellany

BLOOD GROUP CLASSIFICATIONS USED IN HOSPITALS IN THE UNITED STATES AND CANADA

Preliminary Report *

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In view of current agitation for the adoption of a new classification of blood groups, it seemed advisable to find out what system of grouping is in use at present in a majority of the chief hospitals in the United States and Canada. It was thought that the hospitals which were considered by the American Medical Association to be "in a position to furnish acceptable internships for medical graduates" could give information that would be sufficiently representative of prevailing blood group classifications. Accordingly, on March 1, 1928, questionnaires on this subject were mailed to these 580 hospitals. As this work was under way early in January of this year, the list of hospitals revised to April 15, 1927, was used as the mailing list. The additional hospitals appearing in the list published March 24, 1928, are now being circularized and their replies will be incorporated in the final report, together with a copy of the letter and questionnaire.

TABLE 1.—*Summary of Replies to First Four Questions*

Classification Used	At Present: Number of Hospitals	At Present: Approximate Percentage of Hospitals	Prior to Recent Agitation for O, A, B, AB.: Number of Hospitals	Prior to Recent Agitation for O, A, B, AB.: Approximate Percentage of Hospitals
Jansky	61	16	69	18
Moss	272	72	282	75
Jansky-Moss	11	3	11	3
Jansky-O, A, B, AB	1	5		
Moss-O, A, B, AB	2	5		
Jansky-Moss-O, A, B, AB	1	5		
O, A, B, AB	14	5		
None	12	..	11	
Pending further information	1	..	2	

In planning the questionnaire, it was necessary to keep in mind the possibility of these hospitals using one or more of three classifications: Jansky, Moss or O, A, B, AB. The O, A, B, AB classification is also called the new classification, the Landsteiner classification, the International Classification, and the National Research Council Classification.

At the time of this preliminary report, 375 of the 580 hospitals have responded. This represents about 65 per cent of the hospitals, and in turn corresponds to about 65 per cent of the total beds in the 580 hospitals.

Tables 1 and 2 contain summaries of the answers to the first four questions of the questionnaire, namely: 1. What blood group classification is now being used? 2. When was this classification instituted? 3. Had any other system been used previously? 4. If a change has been made, was such a change influenced by the committee's recommendation that the Jansky classification be adopted in the United States [1] or by the more recent agitation for designating the groups as AB, A, B, O?

Comparison with the list of "hospitals furnishing acceptable internships," as revised to Aug. 1, 1920, showed that among the hospitals which up to the present writing had returned the questionnaire, 250 were on the 1920 list. This list comprised a total of 469 hospitals. These 250 hospitals, therefore, represent about 53 per cent of the hospitals on this list and

* From the Department of Bacteriology, University of Rochester School of Medicine and Dentistry.

1. Isohemagglutination: Recommendation That the Jansky Classification Be Adopted for Universal Use, Miscellany, J. A. M. A. 76: 130 (Jan. 8) 1921.

about 56 per cent of the total beds. The classifications employed by these 250 hospitals prior to 1921 are given in table 2.

TABLE 2.—*Summary of Classifications Employed Prior to 1921*

Classification Used Prior to 1921	Number of Hospitals	Approximate Percentage of Hospitals
Jansky	13	5
Moss	163	65
None	48	15
Indefinite reply	26	10

Table 3 summarizes the replies to the fifth question, "Are you in favor of a compromise system, such as the AB, A, B, O, instead of either the Moss or the Jansky classification?"

TABLE 3.—*Summary of Replies to Fifth Question*

Favor a Compromise System Such as O, A, B, AB	Number of Hospitals	Approximate Percentage of Hospitals
No	210	56
Yes	97	26
Yes, if universal	24	6
No answer or answer ambiguous	44	11

Replies to the sixth and final question of the questionnaire, "Do you think that this compromise system, if recommended, will likewise lead to further complications?" are given in table 4.

TABLE 4.—*Summary of Replies to Sixth Question*

Compromise System, if Recommended Will Lead to Further Complications	Number of Hospitals	Approximate Percentage of Hospitals
Yes	247	66
No	62	16
No answer or answer ambiguous	66	17

The answers to questions five and six are noteworthy in view of the proposed plan to adopt a compromise classification.

The results of the replies to the questionnaire, summarized in tables 1 to 4, may be stated briefly as follows:

1. The Moss classification of blood groups is in use in 72 per cent of the 375 hospitals which have replied to the questionnaire.

2. The recommendation, in 1921, of the special committees appointed to consider the matter, that the Jansky classification be adopted, has not resulted in any considerably increased use of that system.

3. More than half of those who perform blood grouping tests at these hospitals are not in favor of the adoption of a compromise system such as the O, A, B, AB, and think that the attempt to introduce such a compromise system would lead to further confusion.

Crittenden Boulevard.

DENGUE FEVER AND DEFECTIVE GUTTERINGS

F. G. Cawston (*J. Trop. Med. & Hyg.*, Nov. 1, 1927) calls attention to the prevalence of defective gutterings on homes at the Natal coast during a recent outbreak of dengue fever, which resulted in about 30,000 cases of illness, and recommends that a law be passed requiring a more decided slope on roof guttering to prevent mosquito production. He recommends a slope of 1 inch to 12 feet. He also calls attention to the sagging of gutters due to leaning ladders against them.

COMMENT

It is known that these defects are not limited to Natal but are commonly found in the United States as well as in many other countries, and it seems strange that, since the kind of places in which pestiferous and disease-bearing mosquitoes propagate are known, the conditions are permitted to continue. At the same time people pay large sums for metallic screen to keep mosquitoes out of their homes.

On the isthmus of Panama, during the construction of the canal, most of the homes were constructed without roof gutterings; but short lengths with a good slope were used over entrances to balconies. Where guttering was used at the roof edges it was given a good slope and attached to the roof at short intervals, so that sagging did not occur. It is thought that architects should seriously consider this phase of sanitation and comfort along with other construction requirements.

On pages 288 and 290 of "Mosquito Control in Panama" are shown the types of roof guttering in which the mosquito that conveys dengue and yellow fever used to propagate before the method of transmission of these diseases was known, and then the method of constructing roof gutters with sufficient slope so that they could not become a source of disease-bearing or pestiferous mosquitoes.—J. A. LEPRINCE.

Medicolegal

Findings as to Infection from Actinomycosis Fungus

(Pfister & Vogel Leather Co. v. Industrial Commission et al. (Wis.), 215 N. W. R. 815)

The Supreme Court of Wisconsin, in affirming a judgment which affirmed an award of compensation for the death of an employee in a tannery, whose death was caused by an infection of the liver by the actinomycosis germ or fungus, which is the germ which produces the disease commonly called lumpy jaw when it affects cattle, says that the single question presented was whether there was any credible evidence which directly or by fair inference sustained the findings of the industrial commission. This depended largely on the testimony of the three physicians who testified. As is usually the case when physicians are called by opposing parties, they did not agree. Yet there was substantial accord in their testimony as to the fundamental facts involved. The difference in their testimony consisted chiefly in the degree of certainty with which they testified to the basic facts which determined liability. They all agreed that there was at least a possibility that the employee was infected with the germ from hides handled in the tannery. The physicians called by the applicant for compensation testified that it was more probable that the disease was contracted in the tannery than anywhere else, and that the probabilities were all to the effect that the employee was infected with the germ in the tannery.

It is often impossible to find the source from which a germ causing disease has come. The germ does not leave a trail that can be followed. Proof often does not pass beyond the stage of possibilities or probabilities, because no one can testify positively to the source from which the germ came, as can be done in the case of physical facts which may be observed, and concerning which witnesses can acquire positive knowledge. Under such circumstances the industrial commission or the court can base its findings on a preponderance of probabilities or of the inferences that may be drawn from established facts. The evidence presented at least three methods by which the germ, if contained in the hides, might have been communicated to the employee: first, by being carried through the air; second, by being carried on the hands or clothing of the man who handled the hides and then communicated to the employee in question by personal contact in the tannery, or at lunch time, when they all ate in a common restroom; third, by direct contact with the germ when the employee was trimming the flesh from the hides. The court thinks that a review of the evidence showed that it contained substantial credible evidence to support the findings of the commission—that there was not an entire failure of proof to support the findings. The proof established the fact that death was caused by an infection of the actinomycosis germ or fungus. It followed that the employee must have been exposed to this germ at some place. The inferences preponderated in favor of the finding that he was exposed to this germ in his employer's tannery. The preponderance of inferences was so great that the commission could say that it amounted to a reasonable certainty.

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Physicians Not Specialists as Expert Witnesses

(Pridgen v. Gibson (N. C.), 139 S. E. R. 443)

The Supreme Court of North Carolina, in reversing a judgment of dismissal as in case of nonsuit in this action against a physician to recover damages for alleged negligence in failing to discover and remove a bit of steel lodged in one of the plaintiff's eyes, causing the loss of the eye, says that whether competent evidence was excluded was the question to be considered. For the purpose of establishing certain allegations in the complaint, the plaintiff introduced as his witnesses three practicing physicians and propounded to each some questions which were hypothetical and others which, though not based on assumed facts, were intended to elicit answers relating to matters of science. The trial court held that the proposed evidence was not admissible because the witnesses were not experts.

This court has insistently upheld the general propositions that, with respect to special skill or experience, the competence of a witness is to be determined by the court as a question preliminary to the admission of evidence, and that, when objection is made to the testimony of a witness who is offered as an expert, there must be a finding by the court or an admission or a waiver by the adverse party that the witness is qualified, such determination being to a degree a matter of judicial discretion. It is not this court's purpose to impair the force of this practical and salutary rule, but rather to apply the principle that the preliminary question is subject to review by the appellate court when it is obviously made to turn on error in law, for by rules of law the qualifications necessary to enable witnesses to testify as experts are prescribed as well as ascertained.

The record in this case did not reveal the grounds on which the physicians examined on behalf of the plaintiff were declared not qualified to testify as expert witnesses, but this court was informed during the argument (and it appeared in the plaintiff's brief) that the reason assigned was their failure to show that they were specialists in the treatment of the eye. Whether an expert is necessarily a technical specialist, or, expressed differently, whether none but a specialist can testify as an expert, is not a matter of judicial discretion, the exercise of which by the trial court is final; it is a question of law which is subject to review by the appellate tribunal. If a physician who is duly licensed by the proper authorities to engage in the general practice of his profession says that, assuming a hypothetical statement of facts to be true, he can express an opinion satisfactory to himself as to a question of science pertaining to a particular branch of medicine, he is not precluded from testifying as an expert simply because he is not a technical specialist in that particular department. The word "expert" has been variously defined: "a man of science"; "a person conversant with the subject-matter"; "a person of skill"; "a person possessed of science or skill respecting the subject matter"; "one who has made the subject on which he gives his opinion a matter of particular study, practice or observation." The basic theory is that the opinions of experts are admissible on questions of science, skill or trade, or on questions which so far partake of the nature of a science as to require a course of previous study, not necessarily technical specialization in any department.

One of the physicians testified that he was a graduate of the University College of Medicine, in Richmond, Va.; that he had studied the structure of the eye and the anatomy of the body; that he had been engaged in the practice of medicine for twenty-seven years; and said, "From my knowledge of medicine and the structure of the eye, I think I know what is the proper thing to do if there is a foreign body in the eye, based on the facts." True, on cross-examination, he said he had had only a general and not a special practice in the treatment of the eye; that he was not a specialist in anything, but only a country doctor, whose practice had been confined to ordinary country diseases. These facts would no doubt be considered by the jury in estimating the probative value of his testimony; but if, as in substance he said, he could form an opinion satisfactory to himself on assumed facts as to the proper method of treating the eye, the mere circumstance that he was not a specialist in this particular field would not as a matter of law disqualify him from expressing an expert opinion. If the ruling had been put on the broad ground that his professional knowledge and training were not such as to satisfy the court of his competence to testify as an expert witness, it is not improbable, in the absence of abuse or palpable error, that a case of "irreviewable discretion" would have been presented; but to say that a witness may not express an expert opinion unless he can qualify as a specialist raises an entirely different question.

Restricting Sales of "Patent Medicines" to Pharmacists

(State v. Wood (S. D.), 215 N. W. R. 487)

The Supreme Court of South Dakota, in affirming a judgment sustaining a demurrer to the complaint and dismissing the action, says that the defendant was charged in a criminal complaint with unlawfully selling at retail certain drugs and medicines, the same being patented and proprietary medicines, he not being a registered pharmacist nor a registered physician under the laws of the state. The complaint was framed under section 7743 of the revised code of 1919 of South Dakota, which provides that "it shall be unlawful for any person other than a registered pharmacist to retail, compound or dispense drugs, medicines or poisons, . . . except as herein provided." The exceptions refer to registered physicians and had no application in this case. The statute is too plain to leave room for construction. It cannot be said that the act does not include "patent" and proprietary medicines. If the demurrer can be sustained, it must be on the ground that, so far as the act does include and apply to "patent" and proprietary medicines as applied to them, it is unconstitutional.

It is not denied by the decisions that "patent" and proprietary medicines are subject to police regulations. In *Noel* v. *People*, 187 Ill. 587-593, 58 N. E. 616-618, the court said: "It is unquestionably true that the state has as much right to regulate the sale of patent and proprietary medicines and domestic remedies as it has to regulate the sale of any other kinds of medicines and remedies." That such is the law is self-evident and needs no argument. If one has a physician's prescription filled at a drug store, he buys not the medicine alone but the druggist's knowledge and skill in dispensing it; but if he were to buy Watkin's Pain-Oleum at the drug store, what more would he buy than if he bought elsewhere? Certainly neither knowledge nor skill, unless the druggist is bound to know the ingredients and their effects on the human system, and to warn a purchaser if there is any danger in its use. Unless the sale of such medicines by pharmacists is regulated, then requiring such sales to be made by pharmacists does not regulate their sale but merely gives to a class the exclusive right to make unregulated sales of such medicines. Unlimited and unregulated sales by pharmacists may be just as extensive and quite as harmful as unlimited sales by others. In the practical operation of the law nothing is gained by the restriction of such sales to pharmacists, if they are in no way required to exercise any knowledge or skill, or to protect the public in any way by refusing to sell where harm will result.

It does not seem that merely selling an article, though that article is medicine, can be classed as the practice of a learned profession. It would seem that the practice of a profession ought to call in use the learning peculiar to the profession. It was suggested that the ethics of the profession would be a protection to the public health; that a pharmacist, having knowledge of the harmful effect of certain drugs, would voluntarily warn the public, where others would not know, or care so long as a profit on a sale could be made. Perhaps knowledge might be some protection; but, where the legislature has not seen fit to require that the composition and effect of such medicines be known and such knowledge used in the protection of the public health, the possible benefits that may result from the knowledge are conjectural and cannot receive much consideration. It would seem to be an unreasonable exercise of the police power to limit sales to the profession, without requiring anything of the profession to safeguard the public health.

The court is unable to find in the statutes of South Dakota anything which controls the sale of "patent" and proprietary

medicines when made by pharmacists. Nor have any regulations of the board of pharmacy requiring anything of the druggists been called to the attention of this court which can be said even to tend to added security of the public in buying such medicines of druggists. This court is unable to see wherein restricting to pharmacists the unlimited and unregulated sale of "patent" and proprietary medicines tends to protect the public health. Such restriction is therefore unreasonable and not a proper exercise of the police power of the state.

Concerning Chiropractors, Physicians, Roentgenograms

(Whipple v. Grandchamp (Mass.), 158 N. E. R. 270)

The Supreme Judicial Court of Massachusetts says that the defendant held himself out as competent to treat the ailments of the plaintiff according to the methods, rules and principles of chiropractic; and offered at the trial of this action for damages for injuries from alleged negligent treatment to prove that he possessed the learning and skill possessed and exercised by chiropractors in that and similar communities. The offer of proof was refused rightly. The defendant in his treatment of the ailment of the plaintiff was exercising his calling as a chiropractor in a matter within the field of medicine or surgery, and while so acting was not within any one of the exempted schools, classes, persons or situations enumerated and described in section 7 of chapter 112 of the general laws of Massachusetts. His acts therefore were unlawful, as would be like acts of any associate members of the school of medicine called "chiropractic." The unlawful acts of the defendant did not become lawful as between the plaintiff and himself by reason of her assent to the exercise of such acts in her behalf, or by reason of the alleged fact that a school of medicine justified them by its rules and principles of practice.

The undertaking of a physician is that he will treat his patient, if he may lawfully do so, according to the system or school which he professes or avows, and that he will use due care and skill according to the practice of that system or school of medicine in the community where he practices his profession. The purpose of the legislature in enacting the statute before the court was not merely to provide a penalty for its violation, but equally to protect the public from ignorant and incompetent practitioners. The statute therefore must be construed as intended to afford relief by way of damages to all persons suffering harm where the violation of the statute is the proximate cause of their injuries.

There was evidence at the trial amply sufficient to warrant the jury in finding that the plaintiff suffered some degree of physical harm by reason of the "adjustment" treatment which the defendant admitted that he gave her in an attempt to relieve her ailments; as also, in finding a proximate causal connection between the acts of the defendant in violation of the statute and the harm which the plaintiff sustained in consequence of the defendant's practice on her of the methods of the chiropractic school of medicine or system of practice. The evidence offered to prove that the defendant possessed and exercised that degree of learning and skill ordinarily possessed by chiropractors in the community where he and the plaintiff lived was properly rejected; it was not relevant to prove the acts done were lawful or that they were in themselves and apart from the practice of the school of chiropractic exercised with reasonable skill and care. The motion for a directed verdict for the defendant was denied rightly.

A physician who was consulted after the alleged negligent treatment by the defendant arranged to have roentgenograms taken at the city hospital. There was undisputed evidence that roentgenograms taken in the hospital laboratory were considered hospital property; that they were not taken except on the order of the physician or surgeon; that they were indexed and numbered as a part of the hospital records; that from the roentgenograms the roentgenologist made findings in writing which were a part of the roentgen-ray laboratory and held there as part of the records of the hospital. The report in this case, besides giving the name and address of the plaintiff, the name of the physician, date and index number gave: "Part of body, cervical spine. Diagnosis, finding, fracture of the transverse process of the second cervical vertebrae of right side, with a very little bowing of same." It was agreed that the roentgenologist, who was dead at the time of the trial, dictated the report. A roentgen-ray technician whose work it was to take roentgenograms in connection with the roentgenologist identified the roentgenographic exhibits as roentgenograms of the plaintiff taken by him for the roentgenologist. The judge admitted the report of the findings on the roentgenograms and the roentgenograms, which together constituted the hospital record. The evidence was relevant in support of the contention of an injury to or fracture of the second vertebra; and was admissible in evidence as a record of the hospital treatment and medical history of the plaintiff's case.

The refusal of the judge to receive the testimony of a witness as an expert on matters relating to the human spine, its functions or any injuries to it as shown by roentgenograms, for the reason that "I don't think that a man who, for the purpose of giving expert testimony on a medical or surgical or anatomical question, confessedly is not a doctor of medicine, can in any manner qualify to testify," was error, and was prejudicial to the contention of the defendant that the roentgenograms admitted in evidence did not show an abnormal condition of the second cervical vertebra, which medical witnesses for the plaintiff had testified they did show. It is plain that knowledge of the human anatomy may be acquired to a high degree from a student of that subject, although such a person is neither licensed nor registered as a doctor of medicine; and it is equally clear, as matter of common knowledge, that in many professions other than medicine, the use of the roentgen ray is familiar, and that it is read in connection with the human anatomy.

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Injury to Eye Compensable Though at First Neglected

(Superior Coal Co. v. Industrial Commission et al. (Ill.), 158 N. E. R. 209)

The Supreme Court of Illinois, in reversing a judgment which set aside an award under the workmen's compensation act, says that, December 24, while the claimant, an employee of the coal company, was setting a prop, some sulphur fell into his left eye. During the next three days he was not bothered much by his eye, but on the fourth day it was red and sore. He testified that on that day he went to his family physician, but the latter had no record of having been consulted prior to January 4, at which time there was a well developed ulcer of the cornea and the eye was generally inflamed. January 9, he was examined by a specialist, who put him in a hospital under treatment until February 18. The eye had then completely healed, leaving a scar covering most of the pupillary area, with a vision of about 5/200. The award of the industrial commission, which is here affirmed, was $15 a week for 7⅔ weeks' temporary incapacity and $15 a week for 110 weeks for total blindness of the eye.

If the testimony of the claimant is credited—and there was nothing in the record to show that it was unworthy of belief—he did suffer an accidental injury to his eye of minor importance, which he did not pay any attention to, and did not think it necessary to report the first day. He testified: "Sometimes you get a little dust in your eyes when working the mine, but you clean it and everything is all right." He merely followed the custom in respect to like accidents. The eye became inflamed. His testimony that he used some medicine which his boy brought home two or three years before, and the specialist's testimony that there would be very little liquid left in that time—the medicine would have become almost a mass of crystals—was a very slight and unsatisfactory basis for the inference that the claimant put crystals into his eye. The specialist did not testify that the medicine had become crystallized in the process of evaporation, and, of course, could not, for he did not see the medicine or the container in which it was kept, and could not know whether the evaporation was such as to produce crystallization. At any rate, it would be acting on remote and improbable possibilities to conclude that the claimant voluntarily put crystals into his eye, by which the eye was scratched and afterward became infected. The eye was inflamed, December 28, which was within the period of time during which an

infection of the eye following the accident might have been expected, if at all, as the specialist testified. The evidence justified the conclusion that the accident resulted in a minor injury to the eye, which because of neglect and improper treatment had a serious conclusion.

Because of the slight character of the original injury, the claimant, not foreseeing the possible consequences, in accordance with the conduct of an ordinarily prudent man under like circumstances, ignored any treatment of it at first, other than the removal of the foreign substance, and appreciated the possible serious results of the injury only as the condition of the eye gradually developed. That he acted in this manner was no reason for denying him compensation. The most that could be urged against the award was that the injury would not have resulted seriously, had proper treatment been given promptly. The injury, however, was ordinarily so slight, and of so frequent occurrence, that no serious result would ordinarily be anticipated. If the conduct of the claimant was such as a reasonably prudent person would adopt in his situation and circumstances, even though the result of the original injury would have been less harmful if a different course had been adopted, it was within the province of the commission to find that the original cause continued to the end and accomplished the final result, and was therefore the proximate cause. The award was justified by the evidence, and the circuit court erred in setting it aside.

Designation of Examiners—Malpractice by Osteopath

(Faasch et ux. v. Karney (Wash.), 260 Pac. R. 255)

The Supreme Court of Washington, in affirming a judgment in favor of the plaintiffs in this action for malpractice brought by husband and wife, says that the defendant was licensed and engaged in the practice of osteopathy, not osteopathy and surgery, and treated Mrs. Faasch professionally. In the course of the trial the defendant asked for a physical examination of Mrs. Faasch. The latter consented. The court proceeded in a very careful manner to select two competent, qualified, disinterested physicians for that purpose. The defendant demanded that a physician already there as a witness for her be designated as one of the two to conduct the examination. The court's refusal to do so was assigned as error, but in the opinion of the supreme court the assignment was without merit.

On the merit the evidence was examined in its entirety, and in the opinion of the supreme court clearly preponderated in favor of the findings, which in turn supported the judgment. In treating Mrs. Faasch the defendant performed two surgical operations that were similar. Under her license she was not entitled to practice surgery. She did not deny that the operations described were surgical but said that she did not perform them. She used a surgical instrument which was described by the witnesses, who also described the manner in which it was used. She admitted that such was a surgical instrument and that under her license she would not have the right to use it, but she denied that she used such an instrument. The operations were performed at the defendant's office. There was abundant evidence that such treatment or operations should not be had, except by a skilled surgeon at a place where the patient could have the best of care and attention to prevent, if possible, the kind of injury done in this case. The proof showed that immediately before the operations and for years Mrs. Faasch was in a normal condition and without any trouble such as now complained of, and that during the treatment and operations complained of lasting several days she was seriously injured, from which she has continuously suffered. Under the evidence in this case Mrs. Faasch's injuries and trouble were reasonably and satisfactorily traceable to the negligent treatment of the defendant, and to nothing else. Such negligent treatment was the direct and proximate cause of the injuries inflicted. It should be said that in a number of particulars there was a conflict in the evidence and that in some of them each had corroboration; but on the whole case, as already stated, the clear weight of it supported the findings and judgment. A motion for a nonsuit and one for a new trial were properly denied.

Society Proceedings

COMING MEETINGS

American Medical Association, Minneapolis, June 11-15. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American Association for the Study of Allergy, Minneapolis, June 11. Dr. A. H. Rowe, 242 Moss Avenue, Oakland, Calif., Secretary.

American Association for Thoracic Surgery, Washington, D. C., April 30-May 2. Dr. Ethan Flagg Butler, Sayre, Pa., Secretary.

American Association of Industrial Physicians and Surgeons, Rochester-Minneapolis, June 11-12. Dr. V. S. Cheney, 5446 S. Halsted Street, Chicago, Acting Secretary.

American Association of Genito-Urinary Surgeons, Washington, D. C., April 30-May 2. Dr. H. L. Kretschmer, 122 S. Michigan Avenue, Chicago, Secretary.

American Association of Pathologists and Bacteriologists, Washington, D. C., May 1-2. Dr. H. T. Karsner, 2109 Adelbert Road, Cleveland, Secretary.

American Bronchoscopic Society, Washington, D. C., April 30. Dr. Louis H. Clerf, 128 South 10th Street, Philadelphia, Secretary.

American Climatological and Clinical Association, Washington, D. C., May 1-2. Dr. A. K. Stone, Auburn Street, Framingham Center, Mass., Secretary.

American Dermatological Association, Washington, D. C. April 30-May 2. Dr. C. Guy Lane, 416 Marlborough Street, Boston, Secretary.

American Gastro-Enterological Association, Washington, D. C., April 30-May 1. Dr. W. J. Mallory, 1720 Connecticut Avenue, N. W., Washington, D. C., Secretary.

American Gynecological Society, Washington, D. C., April 30-May 2. Dr. Floyd E. Keene, Medical Arts Building, Philadelphia, Secretary.

American Heart Association, Washington, D. C., June 12. Dr. Haven Emerson, 370 Seventh Avenue, New York, Secretary.

American Laryngological Association, Washington, D. C., May 1-3. Dr. G. M. Coates, 1721 Pine Street, Philadelphia, Secretary.

American Laryngological, Rhinological and Otological Society, Washington, D. C., May 3-5. Dr. R. L. Loughran, 33 East 63d Street, New York, Secretary.

American Neurological Association, Washington, D. C., May 1-3. Dr. Henry A. Riley, 870 Madison Avenue, New York, Secretary.

American Ophthalmological Society, Washington, D. C., April 30-May 2. Dr. Emory Hill, Professional Building, Richmond, Va., Secretary.

American Otological Society, Washington, D. C., April 30-May 1. Dr. T. J. Harris, 104 East 40th Street, New York, Secretary.

American Pediatric Society, Washington, D. C., April 30-May 2. Dr. H. C. Carpenter, 1805 Spruce Street, Philadelphia, Secretary.

American Proctologic Society, Rochester-Minneapolis, June 9-12. Dr. W. A. Fansler, 531 LaSalle Building, Minneapolis, Secretary.

American Psychiatric Association, Minneapolis, June 4-8. Dr. Earl D. Bond, 4401 Market Street, Philadelphia, Secretary.

American Psychopathological Association, Minneapolis, June 8. Dr. M. W. Peck, 520 Commonwealth Avenue, Boston, Secretary.

American Radium Society, Minneapolis, June 8-9. Dr. G. Grier, Jenkins Arcade Building, Pittsburgh, Secretary.

American Society of Clinical Investigation, Washington, D. C., April 30. Dr. J. T. Wearn, Boston City Hospital, Boston, Secretary.

American Society of Clinical Pathologists, Rochester, Minn., June 8-11. Dr. W. T. Burdick, Republic Building, Denver, Secretary.

American Society of Tropical Medicine, Washington, D. C., May 1-2. Dr. Benjamin Schwartz, P. O. Box 131, Pennsylvania Avenue Station, Washington, D. C., Secretary.

American Surgical Association, Washington, D. C., April 30-May 2. Dr. Lincoln Davis, 205 Beacon Street, Boston, Secretary.

American Therapeutic Society, Minneapolis, June 9-11. Dr. W. J. Mallory, 1720 Connecticut Avenue, N. W., Washington, D. C., Secretary.

American Urological Association, Chicago, June 7-9. Dr. Alexander Randall, Medical Arts Building, Philadelphia, Secretary.

Arkansas Medical Society, El Dorado, May 1-3. Dr. W. R. Bathurst, 810 Boyle Building, Little Rock, Secretary.

Associated Anesthetists of the United States and Canada, Minneapolis, June 11-15. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.

Association for the Study of Internal Secretions, Minneapolis, June 12. Dr. F. M. Pottenger, Title Insurance Building, Los Angeles, Secretary.

Association of American Physicians, Washington, D. C., May 1-3. Dr. J. H. Means, Massachusetts General Hospital, Boston, Secretary.

California Medical Association, Sacramento, April 30-May 3. Dr. Emma W. Pope, 593 Market Street, San Francisco, Secretary.

Conference of State and Provincial Health Authorities, St. Paul, June 8-9. Dr. A. J. Chesley, State Department of Health, St. Paul, Secretary.

Congress of Physicians and Surgeons of North America, Washington, D. C., May 1-2. Dr. W. R. Steiner, 646 Asylum Avenue, Hartford, Conn., Secretary.

Connecticut State Medical Society, Bridgeport, May 23-24. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Georgia, Medical Association of, Savannah, May 9-11. Dr. A. H. Bunce, 139 Forrest Avenue, N. E., Atlanta, Secretary.

Illinois State Medical Society, Chicago, May 8-11. Dr. Harold M. Camp, Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Cedar Rapids, May 9-11. Dr. Tom B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.

Kansas Medical Society, Wichita, May 8-10. Dr. J. F. Hassig, 804 Huron Building, Kansas City, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, April 24-26. Dr. John T. King, Jr., 1211 Cathedral Street, Baltimore, Secretary.

Massachusetts Medical Society, Worcester, June 5-6. Dr, Walter L. Burrage, 182 Walnut Street, Brookline, Secretary.

Medical Women's National Association, Minneapolis, June 11-12. Dr. Helen L. Palliser, 251 Church Street, Poughkeepsie, N. Y., Secretary.

Mississippi State Medical Association, Meridian, May 8-10. Dr. T. M. Dye, Clarksdale, Secretary.

Missouri State Medical Association, Columbia, May 14-17. Dr. E. J. Goodwin, 634 N. Grand Boulevard, St. Louis, Secretary.

Nebraska State Medical Association, Hastings, May 15-17. Dr. R. B. Adams, Center McKinley Building, Lincoln, Secretary.
New Hampshire Medical Society, Manchester, May 15-16. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.
New Jersey, Medical Society of, Atlantic City, June 6-9. Dr. J. B. Morrison, 66 Milford Avenue, Newark, Secretary.
New Mexico Medical Society, Albuquerque, May 10-11. Dr. L. B. Cohenour, 219 West Central Avenue, Albuquerque, Secretary.
New York, Medical Society of the State of, Albany, May 21-24. Dr. D. S. Dougherty, 2 East 103d Street, New York, Secretary.
North Carolina, Medical Society of the State of, Pinehurst, April 30-May 2. Dr. L. B. McBrayer, Southern Pines, Secretary.
North Dakota State Medical Association, Devils Lake, May 23-24. Dr. J. G. Lamont, San Haven, Secretary.
Ohio State Medical Association, Cincinnati, May 1-3. Mr. Don K. Martin, 131 East State Street, Columbus, Executive Secretary.
Oklahoma State Medical Association, Tulsa, May 17-19. Dr. C. A. Thompson, 609 Barnes Building, Muskogee, Secretary.
Rhode Island Medical Society, Providence, June 7. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.
Texas, State Medical Association of, Galveston, May 8-10. Dr. Holman Taylor, Medical Arts Building, Fort Worth, Secretary.
West Virginia State Medical Association, Fairmont, May 21-24. Mr. Joe W. Savage, 303 Professional Bldg., Charleston, Executive Secretary.

Current Medical Literature

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Titles marked with an asterisk (*) are abstracted below.

American J. Obsetrics and Gynecology, St. Louis

15: 145-294 (Feb.) 1928

*Malignant Psychoses Related to Childbirth. G. Zilboorg, White Plains, N. Y.—p. 145.
*Coexisting Extra-Uterine and Intra-Uterine Pregnancy. A. Stein, New York.—p. 159.
*Plea for Early Diagnostic Curettage and Routine Microscopy of Curettings for Detection of Adenocarcinoma of Uterus. L. J. Ladin, New York.—p. 167.
*Influence of Supplementary Feeding of Carbohydrate on Lactation. I. S. Kleiner, J. E. Tritsch and L. G. Graves, New York.—p. 172.
*Defundation of Uterus as Conservative Measure in Myomas and Hyperplasias of Endometrium. A. E. Hertzler, Halstead, Kan.—p. 180.
*Separation of Symphysis Pubis During Labor. W. Brehm and H. V. Weirauk, Columbus, Ohio.—p. 187.
Distribution of Endometrial Cysts. M. T. Goldstine, Chicago.—p. 191.
*Congenital Absence of Vagina: Two Cases. C. H. Davis and R. S. Cron, Milwaukee.—p. 196.
Pelvic Symptoms in Women Nongenital in Origin. E. A. Schumann, Philadelphia.—p. 202.
Twisted Ovarian Cyst in Five Year Old Child. H. L. Kincaid and E. Andrews, Chicago.—p. 207.
Relation of Hypertension of Menopause to Arteriosclerosis. A. L. Nielson, Harlan, Iowa.—p. 212.
*Tubal Pregnancy at Term. A. C. Williamson, Pittsburgh.—p. 215.
Combined Pessary for Nonoperative Palliative Correction of Cystocele and Retroversion. H. F. Strongin, New York.—p. 220.
Clinical End-Results Following Diathermy in Gynecologic Conditions. M. N. Hyams, New York.—p. 224.
*Case of Premature Separation of Normally Implanted Placenta with Unusual Family History. J. R. Miller, Hartford, Conn.—p. 227.
Gordon of Aberdeen. H. Thoms, New Haven, Conn.—p. 229.
Case of Calcified Fibromyoma of Uterus—Supravaginal Hysterectomy. J. M. Troutt, Honolulu, H. I.—p. 234.
Report of Bilateral Dermoid Cysts of Ovaries in Young Unmarried Woman Thirty-Two Years Old. A. B. Poppen, Muskegon, Mich.—p. 236.

Malignant Psychoses Related to Childbirth.—Zilboorg makes a preliminary communication dealing with a part of a study, which was undertaken in an attempt to investigate some of the more intimate relationships which might exist between the various aspects of the life of those women who, after having achieved motherhood physiogically, are unable to rise to the same level psychologically and finally present a picture of disintegration of their respective personalities. Four cases are cited. In each instance the woman was distinctly of the schizoid type, and was rarely free from definite hereditary taints, such as tuberculosis, alcoholism, psychopathies and mental illness. Zilboorg suggests making a careful study of the prospective mother's personality or "make-up." A schizoid personality is open to suspicion, and a careful study should be made of the prospective mother's psychosexual development, i. e., her interest in or reaction to the opposite sex, and her attitude toward her partner. An aloofness, a shyness in the presence of men, courtships lasting several years, and persistent frigidity in marriage are danger signs and should make one definitely cautious. If a woman of schizoid type has survived one pregnancy without apparent complications, a careful inquiry into her postpartum reactions is strictly indicated.

Coexisting Extra-Uterine and Intra-Uterine Pregnancy.—In 1913, Neugebauer collected 243 cases of coexisting extra-uterine and intra-uterine pregnancy. Stein adds thirty-six cases gathered from the literature, including one personal case. The patient was a nullipara, tertigravida, aged 29, whose extra-uterine pregnancy took place in May; the intra-uterine, in October. At operation late in December, a left-sided tubal mass the size of a grapefruit was found to contain blood clot and chorionic villi. When hysterotomy was performed, a placenta and a two and a half months' fetus were expelled spontaneously. The mother recovered.

Adenocarcinoma of Uterus.—In 1915, Ladin reported three cases of complete removal of adenocarcinoma of the uterus by curettage. He now reports two additional cases.

Effect of Excess Carbohydrate on Lactation.—Rice, tapioca and cream constituted the supplementary foods given by Kleiner et al. to 130 mothers for the purpose of increasing their milk supply. The greatest amounts of milk were ingested by the infants of mothers fed tapioca and rice. The greatest volumes of milk obtained by the breast pump were likewise from the mothers who were fed tapioca and rice. The protein content of the milk was about the same in all groups. The cream diet was the only one to increase the fat content of the milk on the fifth day. By the ninth day the mothers 1:1 rice also had milk which contained a high percentage of sugar. These changes in the milk in the early days of lactation, when expressed in calories per specimen obtained, indicate a greater fuel value available to the infant in those cases in which the mother received a high carbohydrate diet. Rice and tapioca were given in 60 Gm. amounts daily, and 100 Gm. of 40 per cent cream was the daily ration.

Defundation of Uterus.—Hertzler describes his experiences with conservative operations on the uterus for nonmalignant conditions with the object of conserving the menstrual function. After the diseased portion has been removed, the uterus is restored as near the normal as possible, the surgeon leaving as much of the mucosa as is needed to carry on the function of menstruation and leaving the fundus of the uterus unattached and without denuded surfaces which invite adhesions after the operation has been finished. Hertzler plans to leave a mucosal area one-third that of the normal uterus, sparing the circulation of the uterus as much as possible in order to prevent secondary changes due to deficient blood supply.

Separation of Symphysis Pubis During Labor.—Brehm and Weirauk call attention to the frequency of separation of the symphysis pubis in cases of labor. Only twenty-five of a series of fifty-four cases did not show separation of the symphysis pubis; fifteen patients had slight separation, thirteen had moderate separation and one had severe separation, i. e., of more than 2 cm.

Congenital Absence of Vagina.—The technic of the plastic operation used by Davis and Cron in their two cases was essentially that described by Graves, but differed in that the flaps were obtained entirely from the labia. The original incision was made in an anteroposterior direction rather than transverse. It was believed that this would help secure a better flap and prevent the loss of any mucous membrane. The placing of sutures was according to Graves' description.

Tubal Pregnancy at Term.—In Williamson's case, the gestation sac was situated behind the uterus. A laparotomy was performed at term and a living child of 8 pounds 4 ounces (3.8 Kg.) was delivered. The child died. The autopsy and the histologic section demonstrate beyond doubt that this was

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a true ectopic pregnancy completely enclosed in the right tube. The mother died from shock sixteen hours after operation.

Premature Separation of Placenta.—Miller describes a typical case of uterine apoplexy in a negress without signs of syphilis or marked toxemia, in whom the previous history showed on three occasions prior to the present pregnancy hemorrhagic disease of her new-born infants. A study of this family has failed to disclose any marked deviation from the normal blood picture.

American Review of Tuberculosis, Baltimore

17: 201-306 (March) 1928

Value of Routine Fluoroscopic Examinations of Chest Among Industrial Employees. H. H. Fellows and W. H. Ordway, New York.—p. 201.
*Leukocytes in Human Tuberculosis: Supravital Technic. R. S. Cunningham and E. H. Tompkins, Nashville, Tenn.—p. 204.
Studies on Immunity to Tuberculosis: Waning of Cutaneous Hypersensitiveness to Tuberculin and Relation of Tuberculo-Immunity to Tuberculo-Allergy. H. S. Willis, Baltimore.—p. 240.
Pulmonary Effect of Over Three Years' Exposure of Guinea-Pigs to Silica Dust. H. S. Willis, Baltimore.—p. 253.
Tumor-Like Structures in Lungs of Guinea-Pigs Artificially Exposed to Silica Dust. H. S. Willis and P. Brutsaert, Baltimore.—p. 268.
Diagnosis of Tuberculosis by Means of Hamster. J. H. Korns and G. Y. C. Lu, Peking.—p. 279.
Surgical Rest in Pulmonary Tuberculosis: Most Recent Advance in Phthisiotherapy. C. F. Hegner, Denver.—p. 282.
Surgical Treatment of Nontuberculous Conditions in Tuberculosis Patients. S. R. Maxeiner, Minneapolis.—p. 293.
Working Capacity of Tuberculous. G. Thorburn, Indianapolis.—p. 297.

Leukocytes in Tuberculosis.—Cunningham and Tompkins assert that the conditions found in the white blood cells, when studied by the supravital technic, may be used in the diagnosis and prognosis of human tuberculosis. The monocytes in the blood are practically always increased in number and stimulated in phagocytic ability in tuberculosis. These changes parallel the grade of clinical severity and are an index of the anatomic extent of lesion and dissemination. The lymphocytes in the blood are an index of resistance and parallel increased resistance. The ratio of monocytes to lymphocytes is a useful mathematical expression for the extent of invasion compared to that of resistance. It is practically always elevated in tuberculosis and parallels increased clinical severity. Graphs showing monocytes, lymphocytes and ratio give a rapid and clear estimation of these factors in the blood of tuberculous patients. Lymph node tuberculosis tends to give higher monocytic and lower lymphocytic values than are indicated by the grade of clinical severity. Children tend to show higher monocytic and lower lymphocytic values than are indicated by the grade of clinical severity. Tuberculous exudates give a characteristic cell reaction, with high lymphocytic and monocytic counts. The monocytes tend to the epithelioid type of cell. The strength of the reaction to tuberculin does not bear any relationship to the observations in the blood in tuberculosis.

Annals of Surgery, Philadelphia

87: 161-320 (Feb.) 1928

*Colonic Anesthesia in Operations on Brain and Spinal Cord. C. H. Frazier, Philadelphia.—p. 161.
*Differential Section of Trigeminal Root in Surgical Treatment of Trigeminal Neuralgia. B. Stookey, New York.—p. 172.
*Relief of Pain in Carcinoma of Face. W. J. Mixter, Boston, and F. C. Grant, Philadelphia.—p. 179.
Branchial Anomalies and Neoplasms: Thirty-Two Cases. L. Carp and A. P. Stout, New York.—p. 186.
*Certain Effects of Obstruction of Bile Ducts. V. S. Counseller, Rochester, Minn.—p. 210.
Gastrojejunal Ulcers and Gastrojejunocolic Fistulas. F. H. Lahey and S. M. Jordan, Boston.—p. 231.
*Progressive Gangrenous Ulceration of Abdominal Wall. A. M. Shipley, Baltimore.—p. 245.
*Solitary Cysts of Kidney. W. J. Carson, Milwaukee.—p. 250.
Posterior Excision of Seminal Vesicles. V. C. Hunt, Rochester, Minn. —p. 257.
*Malignant Tumors of Testis. C. C. Higgins, Cleveland.—p. 263.

Colonic Anesthesia in Operations on Brain and Spinal Cord.—On the whole, Frazier's experience with this method of anesthesia has been favorable to its use. When necessary, he supplements it by giving inhalation anesthesia rather than by introducing an additional amount of the anesthetic into the colon. The operation in which colonic anesthesia seems to have its outstanding indication is laminectomy. Colonic anesthesia is a method of inducing narcosis in which there is none of the sense of suffocation, no period of excitement, no harmful influence on pulse or blood pressure, no irritation of the upper air passages, a state of analgesia after consciousness has returned and a narcosis of uniform depth. The ether vapor is always warm, there is less postoperative nausea and vomiting, and the amount of ether vapor in the system is a fixed, known quantity. Frazier describes his method of anesthetizing in this manner.

Surgical Treatment of Trigeminal Neuralgia.—Differential section is a further refinement in the surgical treatment of trigeminal neuralgia which has proved a satisfactory procedure in Stookey's experience. By differential section is meant section of the fibers within the dorsal root central to the ganglion derived from the division producing the pain without section of the remaining fibers. If the pain is in the mandibular division, the mandibular fibers central to the ganglion are cut without cutting the maxillary or ophthalmic fibers. If the pain is in the maxillary division, these fibers are cut without injury to the mandibular or ophthalmic fibers. If the pain is in the ophthalmic division alone, without involvement of the maxillary or mandibular areas, the ophthalmic fibers are cut. In differential section only those fibers along which the pain impulses are carried are cut. Thus, both the anesthetic area and the attendant paresthesias are reduced to a minimum.

Relief of Pain in Carcinoma of Face.—Mixter and Grant feel that any patient suffering severe pain from a neoplasm, wholly or in large part within the distribution of the trigeminal nerve, may be greatly relieved by blocking or sectioning of this nerve or some of its branches. The method of choice in suitable cases is intracranial section, and this procedure should be carried out prior to treatment of the new growth if pain is or probably will be severe. Alcoholic injection has a definite place in the control of pain, particularly in advanced cases.

Effects of Obstruction of Bile Ducts.—The biliary trees of twenty-six livers were examined by Counseller by the celloidin injection and corrosion method. In ten normal livers, the internal diameter of the common hepatic ducts did not exceed 5 mm., and the diameter of the succeeding branches diminished to 0.05 mm. in the fifth order. Of eight livers in which the gallbladders contained unsuspected stones, general enlargement of the ducts was found in seven, the diameter of the dilated common hepatic ducts being between 6.5 and 11.5 mm. The dilatation was slightly greater when the injury to the gallbladder was more severe. In the case in which there was no dilatation, the gallbladder contained three small stones but was otherwise apparently normal. In three cases in which cholecystectomy had been performed, eight, nine and ten days previous to death, dilatation of the biliary ducts occurred, but was least in a case in which there was an internal fistula between the gallbladder and colon. In five cases in which benign or malignant strictures of the common hepatic duct existed, the amount of dilatation was great and the diameter of the common hepatic duct varied from 10 to 30 mm. The process extended throughout the whole biliary tree, grossly as far as the fifth order of branches. The more complete the obstruction and the longer its duration, the farther the extreme change occurred and the more abrupt was the transition from dilated branches to terminal filaments.

Gangrenous Ulceration of Abdominal Wall.—The original condition of Shipley's patient was diagnosed as abscess of the abdominal wall and was said to be of unknown etiology. Judging from the history, the patient probably had a high appendix with a walled-off abscess which was adherent to the abdominal parties. Bacteriologically, the study of the tissue removed did not throw any special light on the infection. Smears made at the time of operation showed numerous pus cells and gram-positive cocci in chains. Culture showed a nonhemolytic streptococcus.

Solitary Cysts of Kidney.—From a review of the literature and a study of four cases reported, it is the opinion of Carson that polycystic kidney, solitary serous cyst of the

kidney and solitary hemorrhagic cyst of the kidney are all the result of congenital malformations of the kidney, and that the solitary hemorrhagic cyst is formed in the same way as the solitary serous cyst.

Malignant Tumors of Testis.—Of the twenty-three cases of malignant tumors of the testis reported by Higgins, five were carcinomas, two sarcomas, five teratomas, and three embryomas, and in eight cases the type was not specified—in four of them no operation was performed. He believes that roentgen-ray treatment should be administered to the testis prior to orchidectomy, and that following orchidectomy the roentgen ray should be systematically applied to the inguinal region, and to the lumbar and the left supraclavicular regions. Close observation and very frequent examinations are essential. In sixteen of the twenty-three cases there was no evidence of metastases before operation. The end-results in these cases are as follows: Six patients are living, eight have died and two have not been traced. Of the six living patients, two were seen too recently for any report regarding them to be of value; three are living without metastases, six years and eight months, five years and two months, and one year and six months, respectively, after operation; one is living with metastases five months after operation. Of the eight patients in this group who have died, one lived for four years, two more than one year, one eleven months, and one six months after operation; the date of the death of one patient is unknown, and two refused treatment, one dying eleven months and one five months later. Of the seven patients presenting clinical evidence of metastases, two are living without metastases two years and three months, and one year and five months, respectively, after operation; two patients are living with metastases, one year, and one year and five months after operation; one in whom operation was impossible lived three years after treatment; two have died, one, who was not operated on, four months after roentgen-ray treatment, and one at an unknown date after operation. One patient was seen too recently to be included in this report.

Archives of Ophthalmology, New York

57: 109-218 (March) 1928

Curative Value of Aspiration of Vitreous. Z. Nedden, Düsseldorf, Germany.—p. 109.
Detachment of Zonula Lamella. S. J. Meyer, Chicago.—p. 121.
Significance of Ciliary Epithelium in Absorption of Vitreous Hemorrhages. J. Meller, Vienna.—p. 134.
Experimental Transmission of Arsenic to Aqueous Humor. A. M. Yudkin, A. C. Krause and D. G. Morton, New Haven, Conn.—p. 147.
Value of Scotometry in Diagnosis and Treatment of Glaucoma. A. H. Thomasson, New York.—p. 160.
Nonoperative Treatment of Chronic Glaucoma. S. B. Marlow, Syracuse, N. Y.—p. 165.
Training of Adult Blind in Germany. B. Hirsch, Berlin.—p. 178.
Methods for Preparing Gross and Microscopic Eye Specimens. L. H. Meeker and W. H. Cook, New York.—p. 185.
Division of Ophthalmology in New University of Chicago School of Medicine. E. V. L. Brown, Chicago.—p. 190.

Archives of Surgery, Chicago

16: 631-806 (March) 1928

*Subcutaneous Injuries of Abdominal Viscera. B. M. Vance, New York.—p. 631.
*Etiology and Treatment of Scoliosis. J. I. Mitchell, Memphis, Tenn.—p. 680.
*Bronchobiliary Fistula. J. J. Morton and E. W. Phillips, Rochester, N. Y.—p. 697.
*Myositis Ossificans. T. R. Chambers, Baltimore.—p. 755.
*Maduromycosis in United States. H. L. Thompson, Rochester, Minn., and K. Ikeda, Minneapolis.—p. 764.
Present Status of Mycetoma. H. L. Thompson, Rochester, Minn.—p. 774.
Review of Urologic Surgery. A. J. Scholl, Los Angeles and Others.—p. 789. C'td.

Subcutaneous Injuries of Abdominal Viscera.—Vance presents a collective review of the literature on injuries of the parenchymatous abdominal viscera and the hollow abdominal viscera, the stomach, intestines and urinary bladder.

Scoliosis.—The clinical records and roentgenologic observations in 125 cases of scoliosis are reviewed by Mitchell. Six-one per cent were of the idiopathic type. Ten cases are reported in detail for the purpose of stressing the results of proper treatment. Mitchell points out that the treatment, if successful, must be adapted to the individual case. Fusion of the affected region of the spine offers a practical and efficient method of preventing the increase of the deformity. It is advised in all paralytic cases and in other cases in which progress of the deformity is anticipated. Careful preoperative correction is essential. The use of the osteoperiosteal graft, in fusion, is most satisfactory.

Bronchobiliary Fistula.—Morton and Phillips report one case seen by them and review briefly cases on record in the literature and reported on by other observers. A patient with cholelithiasis and cholecystitis was treated by cholecystectomy. Removal of the gallbladder was followed during the immediate postoperative period by what was diagnosed as a subphrenic abscess. An exploration through the original anterior abdominal incision did not reach the abscess, and it gradually worked its way through the diaphragm and into the lung, which had become adherent to the diaphragm, and thence into a bronchus. There was no obstruction to the normal discharge of bile, as was demonstrated by the presence of bile in the stools prior to operation, and by the subsequent course of the patient when the discharge of bile to the surface was stopped; there was no evidence of biliary obstruction. The authors assume that the subphrenic abscess communicated with intrahepatic biliary ducts through an abscess cavity in the substance of the liver. Drainage of this infection with its complicating leakage of bile through the bronchial tree was not sufficient to cause cure. With wide open external drainage, healing and obliteration of the subphrenic and intrahepatic infected cavities was possible. The fistulous tract to the surface, through the diaphragm, lung and bronchial tree, closed as fistulas usually do when there is no longer material to be drained through them.

Myositis Ossificans.—In Chambers' case there was a history only of indirect violence. While helping to lift an automobile from the mud, the patient felt a sharp, sudden pain in the upper portion of the right arm and shoulder. Probably the stripping of the periosteum and hematoma were the chief etiologic factors. A steady painful growth persisted for twenty months, not showing any tendency to become stationary or to recede, or a tendency to metastasis. The pain was increasing as the nerves were encroached on. The tumor was excised but recurred nine months after the operation, which was performed mainly to relieve pain. At the second operation, twenty-one months after the first, amputation was performed because the shoulder joint became involved and the nerve and blood supply to the extremity were threatened. A year and a half later there was no evidence of recurrence.

Maduromycosis in United States.—Thompson and Ikeda report what is said to be the fourth case of maduromycosis reported in the United States. The patient was a negro meat packer, a native of Texas, who had never been outside the United States, but his migrations had included Oklahoma, Missouri, Kansas and Minnesota. He had been a farm laborer for the nine years previous to his work in the packing plant, which was three years before admission to the hospital. He had not gone barefoot since early childhood. Otherwise, the history was unimportant.

Colorado Medicine, Denver

25: 73-100 (March) 1928

*Postmortem Studies of Intracranial, Spinal and Pulmonary Lesions in Stillborn and New-Born. W. C. Johnson, Denver.—p. 78.
Destruction and Healing in Pulmonary Tuberculosis: Serial Roentgenography. S. W. Schaefer, Colorado Springs.—p. 85.
Ultraviolet Treatment of Diphtheria Carriers. G. P. Lingenfelter, Denver.—p. 92.

Analysis of Causes of Fetal and Neonatal Deaths.—Johnson is convinced that neglect of careful autopsy studies of the stillborn and new-born, and inadequate methods of postmortem examination have allowed some of the most important causes of fetal and neonatal death to remain obscure. Also a number of misconceptions have become established. The so-called cerebral hemorrhage of the new-born is in most cases a subdural intracranial hemorrhage associated with a rupture of the dura. In most cases the child does not die from the hemorrhage but from shock. Fracture of the cervical spine is an important cause of the relatively high

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mortality in breech delivery. Asphyxia of the fetus in utero causes aspiration of amniotic fluid, which can be recognized in microscopic sections of the lungs. Particles of vernix caseosa aspirated into the lungs before birth may cause suffocation of the child after it is born. If the amniotic cavity has become infected from the vagina through premature rupture of the membranes, aspiration of the infected amniotic fluid may cause death of the child from congenital pneumonia.

Florida Medical Association Journal, Jacksonville

14: 371-428 (Feb.) 1928

Eye Conditions That Concern Practitioner. J. M. Wheeler, New York.—p. 385.
Normal Diet for Diabetics. A. L. Walters, Miami Beach.—p. 389.
Significance of Recurrent Vomiting or So-Called Bilious Attacks in Children. G. L. Cook, Tampa.—p. 392.
Gunshot Wounds of Rectum. L. A. Peek, West Palm Beach.—p. 396.
Pregnancy with Complications. H. Stimson, Miami.—p. 397.
Pelvic Infections. W. C. Jones, Miami.—p. 399.
Multilocular Cyst of Ovary in Inguinal Canal: Case. S. E. Chambers, Miami.—p. 402.
Pneumothorax in New-Born Infant: Case. M. J. Flipse, Miami.—p. 403.
Ether Anesthesia. J. M. Beggs, Chattahoochee.—p. 405.
Tularemia: Case. C. W. Harper, Chipley.—p. 406.
Cause of Labor: Case Where Labor Failed to Develop. W. B. Ryan, Coral Gables.—p. 408.
New Uterine Dilator. H. Cooke, Rochester, Minn.—p. 411.

Indiana State M. Association Journal, Fort Wayne

21: 51-88 (Feb.) 1928

Heart. H. A. Christian, Boston.—p. 51.
Displacement Irrigation of Nasal Sinuses with Suction. D. W. Layman, Indianapolis.—p. 60.
One Hundred Consecutive Hernioplasties with End-Results. M. N. Hadley, Indianapolis.—p. 63.
Convergent Strabismus: Case. E. J. Lent and M. B. Lyon, South Bend.—p. 66.

Johns Hopkins Hospital Bulletin, Baltimore

42: 113-189 (March) 1928

*Tuberculous Aneurysm of Hepatic Artery. W. P. Thompson, Baltimore.—p. 113.
*Etiology of Pyelitis in Pregnancy. J. Hofbauer, Baltimore.—p. 118.

Tuberculous Aneurysm of Hepatic Artery.—Thompson reports a case of chronic tuberculosis in the abdomen which led to the formation of an aneurysm of the hepatic artery and rupture of the aneurysm. It was known that there was a tuberculous infection of the pubic bone ten years before the onset of the later acute symptoms, and that tuberculosis had existed for some time in the tissues at the hilum of the liver, spleen and prostate. The presence of tuberculous tissue in the wall of the aneurysm, close to the point of rupture, the presence of an area of hyaline material in the arterial wall at the point of rupture and the absence of any other plausible explanation for the weakening of the blood vessel wall are all strong arguments in favor of the direct relationship of tuberculosis to the formation of the aneurysm. And, from the size and position of the aneurysm, there seems to be no question that it was the cause of biliary obstruction, its rupture causing melena.

Etiology of Pyelitis in Pregnancy.—While there occurs after labor a gradual return of the renal pelvis and of the ureter toward normal in uncomplicated cases, persistence both of bacteria and of marked dilatation of the ureter was demonstrated by Hofbauer on reexamination in a considerable percentage of women who had been treated for pyelitis during a preceding pregnancy. In the vast majority of these cases, the level above which the ureter has remained dilated corresponds to the parametrium. Stricture of the ureter may occasionally result from long standing infection in the ureteral wall during pregnancy. The use of pituitary extract in the treatment of pyelitis complicating pregnancy is suggested by Hofbauer on account of its specific antiphlogistic action, as well as for its stimulating effect on ureteral peristalsis.

Journal of Nervous and Mental Disease, New York

67: 209-320 (March) 1928

*Mechanism of Inoculation-Malaria on Histopathologic Changes in Paresis. W. L. Bruetsch and M. A. Bahr, Indianapolis.—p. 209.
Psychoses in Criminals: Psychopathology of Crime. B. Karpman, Washington, D. C.—p. 224. C'td.
Karl Kleist: His Method of Research and Its Results. H. Strauss, Frankfurt, Germany.—p. 248.

Mechanism of Inoculation-Malaria.—Bruetsch and Bahr report on the necropsy done in a patient suffering from general paralysis who died about one week after intravenous inoculation of 1.5 cc. of malarial blood. Briefly, the treatment of general paralysis with inoculation-malaria produces during the paroxysms microscopic changes in the brain, consisting of proliferative phenomena of the capillary endothelium, which must be regarded as part of the reaction of the reticulo-endothelial system. The reaction of the reticulo-endothelial system in inoculation-malaria is as intensive as in typhoid, following which disease similar good remissions in general paralytic patients have been frequently reported. The absence of the perivascular infiltrations in the greater part of the cortex in a patient who died at the height of a paroxysm toward the end of the course of therapeutic malaria suggests the disappearance of the infiltrating cells during the acute malaria. The perivascular infiltrations persisted in the temporal lobes and in the striatum. These observations are in accordance with those of other authors on the modified distribution of the inflammatory phenomena following malaria. During the course of malaria and particularly at the time of the febrile attacks, plasma cells probably immigrate into the brain vessels taking part in the phagocytosis of the liberated young plasmodia. After the retrogression of the perivascular infiltrations, normal conditions are reestablished in the perivascular lymph space resulting in a partial recovery of the ectodermal tissue (ganglion and glia cells).

Medicine, Baltimore

7: 1-103 (Feb.) 1928

Hyperplasia of Lymphoid Tissue and Lymphocytosis. C. Whitney, Philadelphia.—p. 1.
Experimental Study of Leukemias and Lymphomas. E. L. Opie, Philadelphia.—p. 31.
Treatment of Lymphatic Leukemias and Related Diseases, Especially by Irradiation. D. L. Farley, Philadelphia.—p. 65.

Michigan State M. Society Journal, Grand Rapids

27: 145-184 (March) 1928

Treatment of Diabetic Acidosis and Coma. L. F. C. Wendt and D. W. McLean, Detroit.—p. 145.
Medical Science Department of Detroit Public Library. A. P. Biddle, Detroit.—p. 149.
Human Constitution. G. Draper, New York.—p. 151.
Tuberculosis: Progress Made in Detroit, Counties and State of Michigan, D. S. Brachman, England.—p. 156.
Ocular Equilibrium and Head Pain. C. W. Rutherford, Indianapolis.—p. 160.
*Extreme Case of Osteomalacia. R. B. Tower, Brindaban, India.—p. 164.
Early Diagnosis of Pulmonary Tuberculosis. G. B. Webb, Colorado Springs.—p. 165.
Congenital Imperforate Hymen. E. B. Andersen, Grand Rapids.—p. 167.

Extreme Case of Osteomalacia.—Tower's patient was a Hindu woman, aged 35, who was married at the age of 11; she menstruated first at 15. She had had three full term pregnancies at an interval of three years each; each pregnancy was marked by great suffering, fever, pain and general weakness, and the intervals by comparatively good health. All these children were living and were born without any difficulty. At the age of 27, she had a four months' miscarriage, and within a year after this she noticed that the bones of her body were becoming crooked and that she suffered intense pain. She had only slight relief from massage, enabling her to stand up a little; but by the end of a year, the back, hips and legs were so bent that she could no longer use her feet. For three years she remained in this condition and then became pregnant a fifth time. Such was her condition that she could not even sit up without assistance; she had fever, and the pain was very great. At the beginning of the ninth month she began having labor pains, and then Tower saw her. The woman was very anemic, weighing not more than 50 pounds (22.7 Kg.). There were bends and twists in nearly every bone in the body. The mandible was crooked. In the upper right humerus, the bone had bent to about a 135 degree angle. In the left humerus at the juncture of the middle and the lower thirds, the angle was even greater. The sacrum had such an anteroposterior curvature that it was impossible

for the patient to lie on her back without great discomfort. The pelvis was markedly compressed laterally. Both femurs were bent. The tibia and fibula of both legs were so bent, with the thighs so contracted on the abdomen, the toes with difficulty could touch the bed. The teeth were in very bad condition, and there was marked pyorrhea. A cesarean section was made and a live baby delivered. Convalescence was somewhat slow, but both mother and baby survived.

Military Surgeon, Washington, D. C.

62: 293-431 (March) 1928

Walter Reed, Dedication of His Birthplace. J. R. Kean.—p. 293.
Italian Royal Navy Surgeons as Royal Commissioners in Emigration Service. G. L. Rolando.—p. 305.
*Use of Iodized Oil in Study of Pulmonary Conditions. R. Reynolds and J. D. Barnwell.—p. 314.
Chemistry of Chemical Warfare Agents and of Protection Against Them. C. B. Wood.—p. 322.
*Syphilitic Aortitis with Aneurysm of Thoracic Aorta. W. S. Shields and A. B. Jones.—p. 339.
Field Service. J. W. Grissinger.—p. 343.
Recollections of Old Medical Officers: Brigadier General B. J. D. Irwin. M. L. Crimmins.—p. 361.

Use of Iodized Oil for Pneumonography.—Reynolds and Barnwell have found that injections of iodized oil offer material aid in outlining tuberculous cavities. The oil shows the extent of these lesions, the presence of bronchiectasis and the extent of normal lung tissue. Following thoracoplastic operations for lung compression, the ordinary roentgenogram often fails to disclose small cavities that may be present because of the thick pleural covering of the compressed lung, and it is in these cases that iodized oil injections offer considerable aid. Other conditions mentioned in which iodized oil injections have proved of value are new growths, stenosis, foreign bodies and bronchopleural fistulas.

Syphilitic Aortitis with Aneurysm of Thoracic Aorta.—The unusual feature of the case reported by Shields and Jones was the development of syphilitic aortitis with aneurysm within nine months of the initial sore, despite the fact that early, rather energetic treatment, was carried out.

Minnesota Medicine, St. Paul

11: 131-200 (March) 1928

What Is a Medical Expert? A. Sweeney, St. Paul.—p. 131.
*Massive Collapse of Lung. F. J. Hirschboeck, Duluth.—p. 135.
Clinical Consideration of Cardiac Pain. W. H. Long, Fargo, N. D.—p. 143.
Painful Shoulder. J. M. Hitzrot, New York.—p. 148.
Diverticulitis. R. I. Rizer, Minneapolis.—p. 151.
Clinical Signs and Treatment in Diabetic Acidosis. D. McCarthy, Minneapolis.—p. 158.
Neurosyphilis. W. H. Hengstler, St. Paul.—p. 161.
Cerebrospinal Vascular Lesions in the Aged. L. R. Gowan, Duluth.—p. 165.
Progress in Prevention and Treatment of Some Infectious Diseases. E. S. Platou and C. A. Stewart, Minneapolis.—p. 170.
Early Diagnosis of Pulmonary Tuberculosis. G. B. Webb, Colorado Springs.—p. 174.
Kienbock's Disease: Case. F. W. Van Valkenburg, Long Prairie.—p. 181.
Multiple Myeloma: Case. A. Christiansen, St. Paul.—p. 183.
Skin Grafting: Case. S. R. Maxeiner, Minneapolis.—p. 185.

Massive Collapse of Lung.—Hirschboeck removed the gallbladder and the appendix from a woman, aged 44. The next day she complained of restlessness and shortness of breath, and she expectorated some mucus. Some bile was also vomited. At short intervals the patient complained of considerable mucus in the throat, and a tendency to choking. Physical examination and the roentgenogram led to a diagnosis of postoperative atelectasis of the lung on the left side. Five days later a diagnosis of pneumonia on the contralateral, right side, was made. The patient died on the seventh day. The autopsy disclosed a bronchial obstruction on the left side from compression through an aneurysm in the arch of the aorta, which undoubtedly antedated the operation. Interestingly enough, the operation had induced an attack of massive atelectasis of the lung within forty-eight hours. In Hirschboeck's opinion, this would indicate that there is a close relationship in the causation of postoperative atelectasis of the lung between the influence of bronchial obstruction and of respiratory immobilization.

Nebraska State Medical Journal, Norfolk

13: 81-120 (March) 1928

*Agranulocytic Angina and Infectious Mononucleosis. A. Sachs, Omaha.—p. 81.
Diabetic Coma: Its Diagnosis and Treatment. F. Conlin, Omaha.—p. 85.
Child Guidance Clinics. G. Neuhaus, Omaha.—p. 90.
Rabies. W. J. Raynor, Burkett.—p. 94.
Some Present Century Advances in Preventive Medicine. H. H. Waite, Lincoln.—p. 96.
Fundamentals of Public Health. H. Farrell, Kearney.—p. 99.
Value of Clinical Laboratory Examinations. R. K. Johnson, Friend.—p. 101.
*Carcinoma of Stomach in Young Adults. C. C. Barr and P. Allerton, Tilden.—p. 103.

Etiology of Agranulocytic Angina.—Sachs reports a case of agranulocytic angina, with the laboratory observations and the results of experimental animal inoculations, and also a typical case of infectious mononucleosis. In the first case, a pure culture of a streptococcus was obtained from the throat of the patient. The organism proved to be pathogenic for rabbits. A streptococcus identical with the original streptococcus was recovered from the heart blood of one rabbit.

Carcinoma of Stomach.—Barr and Allerton report a case of adenocarcinoma of the stomach in a young man, aged 22. A posterior gastro-enterostomy was performed. The patient died about six weeks later. The total period of illness was about four months.

New Orleans Medical and Surgical Journal

80: 545-604 (March) 1928

Surgeon and His Patient. I. Cohn, New Orleans.—p. 545.
Recent Advance in Ophthalmic Surgery. V. C. Smith, New Orleans.—p. 550.
Preeclamptic Toxemia. H. V. Sims, New Orleans.—p. 555.
Interpretation of Total White and Differential Blood Findings. C. E. Hamner, Shreveport, La.—p. 560.
Three Cases Complicating Scarlet Fever Prophylaxis Serum. M. S. Picard, Shreveport, La.—p. 565.
Recurrent Duodenal Obstruction. J. A. Danna, New Orleans.—p. 566.
Factors of Safety in Surgery of Biliary Tract. W. H. Parsons, Vicksburg, Miss.—p. 571.
Paranasal Sinusitis: Prevention. J. J. Shea, Memphis, Tenn.—p. 576.
Some Aspects of Neurologic Surgery. G. C. Anderson, New Orleans.—p. 578.

Radiology, St. Paul

10: 185-274 (March) 1928

*Roentgen-Ray Diagnosis of Chemical and Industrial Materials and New Type of Biologic and Medical Diagnosis. G. L. Clark, Urbana, Ill.—p. 185.
Foramen in Lower Extremity of Humerus. I. S. Hirsch, New York.—p. 199.
*Effect of Graded Doses of Roentgen Rays on Animals Fed on Various Dietaries. M. T. Burrows, L. H. Jorstad and E. C. Ernst, St. Louis.—p. 209.
Value of Roentgen-Ray Study in Care of Cases of Pulmonary Tuberculosis. H. K. Dunham, Cincinnati.—p. 217.
Elevation of Diaphragm. F. W. O'Brien, Boston.—p. 226.
Studies in Dynamics of Histogenesis: XIII. E. J. Carey, Milwaukee.—p. 234.
Advantage of Combining Methods of Treatment in Physical Therapy. F. B. Granger, Boston.—p. 252.
Case of Chronic Appendicitis and Calcified Fibroid Uterus. R. A. Arens and A. R. Bloom, Chicago.—p. 256.
Simple Method for Determination of Electrostatic Capacity of Electroscope. R. B. Taft, Charleston, S. C.—p. 257.

Roentgen-Ray Diagnosis of Chemical and Industrial Materials.—Clark reviews briefly the achievements of less than five years in the study of chemical and industrial materials, even to the devising of new manufacturing technic on the sole basis of roentgen-ray information, and to showing how the experimental methods and the generalizations from the results of these investigations may be turned to remarkable advantage in the study of biologic materials and the solution of medical problems.

Effect of Roentgen Rays on Nutrition.—According to Burrows et al., roentgen rays act apparently to cause molecular disintegration in cells. Small doses accelerate activity in the body and in the cells in that they accelerate the normal molecular disintegration, which liberates the energy for life more than other detrimental forms of disintegration. Larger doses destroy the more fundamental structural elements of the cell. The resistance of an animal or a patient may be raised appreciably by the use of a well proportioned dietary, rich in vitamin A.

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Rhode Island Medical Journal, Providence

11: 35-52 (March) 1928

Relation of Practicing Physician to Public Health Program. N. M. MacLeod, Newport.—p. 38.
Eighty Cases of Acutely Perforated Gastric and Duodenal Ulcer. A. Jiráśek, Prague, Czechoslovakia, and M. A. Persky, Providence. —p. 40.

Southern Medical Journal, Birmingham, Ala.

21: 169-252 (March) 1928

Certain Diseases of Oral Mucous Membrane and Vermilion Borders of Lips. B. Shelmire, Dallas, Texas.—p. 169.
Tissue Diagnosis in Operating Room. J. C. Bloodgood, Baltimore.—p. 179.
Bronchiectasis. E. C. Thrash, Atlanta, Ga.—p. 184.
Encysted Intramuscular Parasites. L. A. Fortier and T. T. Gately, New Orleans.—p. 190.
Otorhinologic Hygiene of Swimming. H. M. Taylor, Jacksonville, Fla. —p. 192.
Obesity: Penalties and Treatment. J. S. McLester, Birmingham, Ala.. —p. 195.
Carcinoma of Lung. E. A. Graham, St. Louis.—p. 199.
*Vomiting of Pregnancy. L. A. Calkins, University, Va.—p. 202.
Tuberculous Infections in Childood. C. C. McLean, Birmingham, Ala. —p. 204.
Acute Epiphysitis at Upper End of Femur. K. Speed, Chicago.—p. 208.
Cure of Strabismus. O. Wilkinson, Washington, D. C.—p. 212.
Acrodynia. F. T. Mitchell, Memphis, Tenn.—p. 218.
Voluntary Psychoses and Psychoneuroses. E. B. Block, Atlanta, Ga.— p. 220.
Treatment of Tuberculosis of Bladder and Epididymis. E. L. Keyes, New York.—p. 223.
Indications for Radical Mastoid Operation. P. M. Farrington, Memphis, Tenn.—p. 228.
Results of Treatment of Syphilis in Pregnant Women. J. R. McCord, Atlanta, Ga.—p. 229.
Public Health Service Cooperative Program in Mississippi Flood Area. J. McMullen, New Orleans.—p. 231.
Economic Aspects of Pellagra. C. W. Garrison, Little Rock, Ark.—p. 237.
Prolonged Disability from Backache. W. W. Harper, Selma, Ala.—p. 240.
Unustual Throat Infections. C. D. Blassingame, Memphis, Tenn.—p. 242.

Prevention and Treatment of Vomiting of Pregnancy.—Calkins holds the belief that all women affected with the vomiting of pregnancy are undernourished, at least qualitatively, and that it is possible to prevent vomiting in the majority of cases simply by dietary measures. An increased carbohydrate intake results in a gain in weight in both the severe and the moderate case, and this gain in weight is associated with the disappearance of the vomiting and, later of the nausea. Calkins' treatment is aimed entirely at increased carbohydrate nutrition. In the mild case he sometimes advises patients to increase the intake of bread, potatoes and pastry, and finds on their next visit that they have gained from 3 to 8 pounds (1.4 to 3.6 Kg.) and that their symptoms have disappeared very promptly. In the severe cases he puts the patient to bed, gives her enough sodium bromide to paralyze the vomiting reflex and then fills her full of food. If she shows acidosis, as revealed by diacetic acid and acetone in the urine or by an increased percentage of ammonia in the urine nitrogen, she is also given dextrose intravenously. A patient with severe or moderately severe vomiting is admitted to the hospital, put to bed, and placed on a twenty-four hour starvation period. Nothing at all is allowed by mouth. This serves to allow the stomach to overcome its hyperexcitability, which has been evidenced by the constant retching. The lower bowel is thoroughly cleaned out with enemas, after which 60 grains (4 Gm.) of sodium bromide, in 2 or 3 ounces of water, is given with a small catheter by rectum every six hours. If the patient has difficulty in retaining the medication, the foot of the bed is elevated from 15 to 18 inches. This causes the bromide to go higher in the colon and removes the tendency toward expulsion. This dosage of 60 grains (4 Gm.) every six hours makes a total of 240 grains a day, enough to paralyze the vomiting reflex more or less and to cause the patient to become quite "dopey" by the end of from twenty-four to thirty-six hours. Usually there is no further vomiting after the second dose has been given, and the patient is able to eat almost anything by the end of the twenty-four hours and to retain it without difficulty. Feeding is begun at the end of twenty-four hours. The diet is increased rather rapidly to 2,500 or 3,000 calories, or even more, composed largely of carbohydrates. The high carbohydrate diet is continued until the patient has gained from 8 to 10 pounds (3.6 to 4.5 Kg.) when the emphasis is changed to the proper diet for normal pregnancy.

Southwestern Medicine, Phoenix, Ariz.

12: 45-92 (Feb.) 1928

Mycology—Its Growing Importance in Medicine. R. W. Mendelson, Albuquerque, N. M.—p. 45.
Ragweed Hay-Fever in Salt River Valley. E. W. Phillips, Phoenix.—p. 49.
Nonspecific Chronic Ulcerative Colitis. F. D. Garrett, El Paso, Texas. —p. 50.
Delirium Cordis—Auricular Fibrillation: Six Cases. G. Werley, El Paso, Texas.—p. 54.
Cataract. W. E. Vandevere, El Paso, Texas.—p. 57.
Future of Medicine. R. J. Stroud, Tempe, Ariz.—p. 59.
Carcinoma of Right Ovary. W. R. Jameson, El Paso, Texas.—p. 68.
Case of Epithelioma in Boy Aged Fifteen. W. L. Brown and C. P. Brown, El Paso, Texas.—p. 69.
Modification of Jones' Humerus Splint. F. T. Hogeland, Sonora, Mexico. —p. 70.
Tuberculosis of Vagina. W. L. Brown and C. P. Brown, El Paso, Texas. —p. 71.
Gun Shot Wound of Abdomen. H. E. Stevenson, El Paso, Texas.—p. 71.

Surgery, Gynecology and Obstetrics, Chicago

46: 303-446 (March) 1928

Cancer of Larynx: Two Cases. G. Tucker, Philadelphia.—p. 303.
*Squamous Epithelium in Endometrium. C. F. Fluhmann, San Francisco. —p. 309.
*Choledochus Cyst. E. S. Judd and E. I. Greene, Rochester, Minn.—p. 317.
*Results of Operation for Hyperthyroidism. L. W. Smith, H. M. Clute and J. W. Strieder, Boston.—p. 325.
Causes of Death in Acute Intestinal Obstruction. W. D. Gatch, H. M. Trusler and K. D. Ayres, Indianapolis.—p. 332.
*Management of Chronic Endocervicitis. C. J. Miller, New Orleans.— p. 337.
Surgical Drainage of Seminal Vesicles and Prostate. J. H. Morrissey, New York.—p. 341.
*Chloride Metabolism in Abdominal Lesions. R. Rockwood and R. S. Anderson, Baltimore.—p. 352.
Choked Labyrinth in Brain Tumor. G. Alexander, Vienna.—p. 361.
Heart in Pregnancy. S. A. Gammeltoft, Copenhagen, Denmark.—p. 382.
*Wertheim Operation for Cancer of Cervix Uteri. P. Werner, Vienna. —p. 391.
*Massive Bone Graft Applied for Nonunion of Humerus. M. S. Henderson, Rochester, Minn.—p. 397.
*End-Results from Correction of Cystocele by Simple Fascia Pleating Method. N. F. Miller, Iowa City.—p. 403.
*Method for Gradual Occlusion of Aorta. H. E. Pearse, Jr., Baltimore. —p. 411.
*Transplantation of Gluteus Maximus for Paralyzed Gluteus Medius. D. R. Telson, New York.—p. 417.
*Zinc Gelatin Dressing in Treatment of Fracture. F. Schnek, Vienna.— p. 420.
*Gastrostomy: Modified Technic of Janeway Method. D. Quick and H. E. Martin, New York.—p. 426.

Squamous Epithelium in Endometrium.—The occurrence of stratified squamous epithelium in the endometrium has been described in a number of benign conditions in adults and young children, and it has also been produced experimentally. Six cases have been reported of unusual epithelial masses occurring among glands in hyperplastic endometrium. The lesion is considered to be due to a metaplastic change from cylindrical to squamous epithelium. Fluhmann says that the exact significance of this change cannot be determined, but there is not sufficient evidence to cause one to consider it as definitely malignant. He reports one case.

Cyst of Choledochus.—Judd and Greene state that among 17,381 operations performed on the biliary tract, true cyst of the common duct was encountered only once. One other cyst of the common duct was found, but it was not idiopathic, and was present in a case in which cholecystectomy had been performed and stones found in the common duct.

Results of Operation for Hyperthyroidism.—Relief from the symptoms of hyperthyroidism was complete in 92 per cent of the 100 cases analyzed by Smith et al., and the remaining patients were all much improved, confirming the belief that the proper removal of sufficient thyroid tissue will cure the patients of the symptoms of hyperthyroidism. Nineteen of the patients had a basal metabolic rate at the end of a year of less than —10. Fifteen of these showed clinical evidence of myxedema. Histologically in this series there is very little apparent correlation between the degree of involution and the basal metabolic rate or clinical picture, although it is definitely felt that the preoperative administra-

tion of iodine is one of the chief factors in disturbing this relationship. Similarly, there does not appear to be any relationship between the degree of involution and the incidence of either lymphoid infiltration or acidophilic cell formation. However, the presence of acidophilic cells is regarded as abnormal and a danger signal not to be lightly disregarded.

Treatment of Chronic Endocervicitis.—Endocervicitis is an infectious disease which does not tend to cure spontaneously and the sequelae of which may be extremely serious. Every case, therefore, says Miller, demands prompt treatment. Any treatment to be successful must be directed toward the underlying pathologic condition rather than toward the manifestations of the disease. Local treatment is very unsatisfactory, and diathermy, ionization, alcoholic injections, and similar measures give only partially satisfactory results and are not free from danger. Radium often gives excellent results in selected cases but it is too dangerous to be employed as a matter of routine. According to the conditions present, cauterization, trachelorrhaphy, the Sturmdorf operation, or complete amputation must be done, although the latter procedure should be avoided whenever possible. Any surgery is best preceded by a preliminary course of treatment, the object being to reduce hypertrophy and inflammatory reaction in the structures and to restore the normal relation of the parts.

Chloride Metabolism in Abdominal Lesions.—Fifty-two cases of conditions with a low blood chloride are reported by Rockwood and Anderson. Most of these are associated with abdominal conditions. A fall in the blood chlorides in such cases below 260 mg. per hundred cubic centimeters is accompanied by a distinct rise in mortality if untreated. Proper treatment of the patient along metabolic lines in many cases lowers the mortality and makes the patient a better risk for operation. The authors comment on the frequency of this condition and suggest that it is probably being overlooked.

Wertheim Operation for Cancer of Cervix.—Werner asserts that by reason of the improvement of the technic of the Wertheim operation and postoperative irradiation, the primary mortality has been reduced from 10 to 5 or 6 per cent.

Use of Massive Bone Graft for Nonunion.—In bone grafts for nonunion of delayed union of fractures of the humerus, Henderson regards postoperative fixation as being essential. He describes his technic in detail. He has found that a body cast encircling the chest, either resting securely on the iliac crests or hanging from the opposite shoulder, should be applied a few days before operation. Following operation, a cast should be applied to the arm, forearm and hand, extending from the ends of the metacarpal bones to the axilla, and should be lashed securely to the body cast by plaster of paris thrown around the body and arm cast and over the shoulder.

Fascia Pleating Operation for Cystocele.—A study of 100 cases has convinced Miller that the simple fascia pleating operation is an eminently satisfactory method of repairing cystocele unassociated with prolapse. In this series there were complete cures in 72 per cent of the cases; 22 per cent were improved, and only 6 per cent were not benefited. Incontinence is the most likely complaint to remain after operation, this symptom being the principal cause for imperfect cure in thirteen patients in this series. Most patients are completely relieved of all symptoms in from three to four months following operation. Retroversion of the uterus is not a common complication following this method of repair. Laparotomy combined with repair of cystocele diminishes the chance of perfect cure. The repaired anterior vaginal wall is not greatly affected by childbirth, so that the cystocele does not tend to recur after delivery. The operation does not interfere with the physiology of labor, and spontaneous labors are the rule.

Method for Occlusion of Aorta.—A method is described by Pearse for occlusion of the thoracic aorta of the dog which achieves asepsis, gradual occlusion and ease of performance, and avoids secondary hemorrhage. The principle involved is the production of thrombosis by means of a coiled wire, like a spring screwed into the lumen through a small perforation in the arterial wall. Animals have been observed for fourteen months and no deleterious effects have been noted.

Transplantation of Gluteus Maximus for Paralyzed Medius.—In the method employed by Telson, the portion of the gluteus maximus having fascial origin is isolated with branches of the superior gluteal vessels and inferior gluteal nerve. The lateral portion of the gluteus maximus is swung anteriorly, and its fascia is sewed into the crest of the ilium as far forward as the tubercle 2 inches (5 cm.) posterior to the anterior superior spine.

Zinc Gelatin Dressing in Treatment of Fracture.—The zinc gelatin dressing employed by Schnek is a semielastic dressing consisting of from two to four layers of a loosely woven cotton bandage, the meshes of which are filled in by the thick fluid of zinc gelatin. This dressing was first introduced by Unna for the treatment of leg sores, and it proved very valuable in such cases as it not only does not irritate the skin but may cure open ulcers and eczemas. Furthermore, as the bandage also sticks well to the skin and prevents the occurrence of edema, the dressing is even more practical for the treatment of fractures than is irritating court plaster. The constitution of zinc gelatin is as follows: zinc oxide, 100 parts; gelatin, 200 parts; tap water, 300 parts, and glycerin, 400 parts. It is advisable to use only the very best materials in the preparation of the mixture, since otherwise the glue is not absolutely reliable. Organdie bandages, 10 and 15 cm. in width, should be used. A 10 cm. broad, flat, hair (not bristle) brush is used to paint the mixture on the skin and bandage. In order to keep the zinc gelatin fluid during the process of painting it on the bandage, the pot of glue should be kept in a pan of hot water. Two pounds (0.9 Kg.) of zinc gelatin are sufficient for five dressings of the lower leg.

Modification of Janeway Gastrostomy.—A method is presented by Quick and Martin which is a modified and improved technic of the method first reported by Janeway in 1914. The authors believe that the Janeway method overcomes the disadvantages of gastrostomy more satisfactorily than any other method yet devised.

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FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Radiology, London

1: 37-74 (Feb.) 1928

Use of Opaque Substances as Aid to Diagnosis in Gynecologic Conditions. R. A. Gibbons.—p. 37.
Basal Cell Carcinoma of Scalp Appearing Eighteen Years After Epilation by Roentgen Rays for Ringworm. H. Burrows.—p. 59.
Trend of Modern Therapeutics. A. Soiland, W. E. Costolow and O. N. Meland.—p. 61.

British Medical Journal, London

1: 383-430 (March 10) 1928

*Chronic Intestinal Toxemia in Children. R. Miller.—p. 383.
Sciatica. A. Feiling.—p. 386.
*Suppurative Pylephlebitis and Hepatic Abscesses Complicating Appendicitis. W. A. Barnes and L. V. Pearson.—p. 390.
*Examination of Urine for Pus. C. Dukes.—p. 391.
*Sarcoma of Stomach. J. S. Hall.—p. 393.
Meckel's Diverticulum in Strangulated Inguinal Hernia. H. Reid.—p. 394.
*Unusual Complications of Pneumonia. N. Walsh.—p. 394.

Chronic Intestinal Toxemia in Children.—Miller directs attention to the type of child who is persistently out of health owing to chronic intestinal toxemia. He deals, first, with the signs and symptoms by which it may be recognized; secondly, with the various forms of intestinal derangement responsible for it, some of which are special to childhood, and finally, with the principles of its treatment. He also emphasizes the fact that in many of these children the most conspicuous symptoms are those pointing to disorder of the nervous system, so that there is a danger that the causative physical condition may be overlooked and the case regarded as a purely psychologic problem.

Pylephlebitis and Hepatic Abscess Complicating Appendicitis.—The signs and symptoms in the case cited by Barnes and Pearson were very mild from the beginning of the illness, including the attack of appendicitis, up till the onset of daily rigors about five weeks later. The interval which elapsed between the attack of appendicitis and the onset of

suppurative pylephlebitis and hepatic abscess, as indicated by the rigors, was one of the interesting features of the case. Jaundice was slight, toxemia profound, prostration rapid. The liver and spleen enlarged rapidly, and this enlargement was associated with the onset of portal pyemia and leukocytosis. The appendix was removed, and the liver was aspirated and a drainage tube inserted. The whole story was typical of this condition, except for the fact that the patient recovered. The significance of the case lies in the importance of draining the liver and in the proof it affords that the condition, although one of extreme gravity, is not necessarily fatal.

Examination of Urine for Pus.—With the method advocated by Dukes, the formed elements of the urine (casts, red blood corpuscles and leukocytes) are enumerated in a counting chamber by a method similar in principle to that employed for blood counts. The sample to be tested must be the first urine passed in the morning or after an interval of four hours. The test can be completed in two or three minutes, and provides a quantitative record comparable from day to day. It is suggested that urine should not be said to contain pus unless it contains more than 100 leukocytes per cubic millimeter.

Sarcoma of Stomach.—The clinical evidence in Hall's case led to a diagnosis of duodenal ulcer, and it was decided to perform a duodenojejunostomy. Under general anesthesia a movable epigastric tumor, about 4 inches (10 cm.) in diameter, was felt through the abdominal wall and explored through a right paramedian incision. It proved to be a growth of the middle of the stomach, slightly adherent to the pancreas, with multiple glands in the gastrohepatic and gastrocolic omenta. Hall removed the growth with the enlarged glands and a small portion of pancreas by the modified Polya method, leaving about a fourth of the cardiac end of the stomach to anastomose to the side of the jejunum. Convalescence was uneventful. The microscopic diagnosis was small round cell sarcoma which had become ulcerated. Four months later the patient had gained in weight and all signs of the malignant condition had disappeared.

Hematoma of Abdominal Wall in Pneumonia.—Walsh's patient complained of backache, slight headache and "cold chills." He had not had a rigor, and did not look very ill. His tongue was very dry and red; the pulse was 100, the respiration 20, and the temperature 101.5 F. Physical examination was negative. The next day he had a slight cough, with a little yellow sputum. The chest was resonant, with a few râles at both bases. He did not have any pain. On the third day the cough had almost gone and the general condition was the same. On the fourth day he had severe hiccup, which continued almost without pause for two days. He also had slight conjunctival jaundice. On the fifth day jaundice became very deep over the whole body, and the abdomen was greatly distended, though no cause was found. The diagnosis up to now had been influenza with mild bronchitis, and, later, possible early pneumonia. The distention was attributed to a condition of paralytic ileus resulting from profound toxemia. The lump could not be explained, and was the chief difficulty. The patient died with definite signs of a right-sided pneumonia. At the necropsy marked pneumonia was found in the lower lobe of the right lung; the heart contained an antemortem clot. There was no lump within the abdomen, but a large hematoma was present in the abdominal wall.

Lancet, London

1: 429-482 (March 3) 1928

Physiology of Violent Exercise in Relation to Possibility of Strain. A. Abrahams.—p. 429.
*Postoperative Sepsis: Puerperal Sepsis. V. Bonney.—p. 435.
*Posture of Hand in Chorea and Other States of Muscular Hypotonia. W. R. Brain.—p. 439.
Pathogenesis of Dystrophia Musculorum Progressiva. K. Kuré.—p. 441.
Latest Development in Stereofluoroscopic Work. F. H. Humphris.—p. 442.
*Syphilis of Uterus. H. Billig.—p. 443.
Strangulated Inguinal Hernia in Infant Aged Fourteen Days. M. E. M. Jago.—p. 444.

Prevention of Postoperative Sepsis.—Bonney concludes his review as follows: In obstetric, as in general surgery, there is no royal road to the abolition of postoperative sepsis. The routes and modes of infection are too many and too complicated to be countered by a single method of prevention. The organism commonly responsible for puerperal fever is a streptococcus, and it is generally admitted that pregnancy lowers the body resistance to this organism in a special degree. The streptococci found in puerperal fever have been closely studied in the endeavor to trace their place of origin, but no consensus of opinion has been reached, nor is it of primary importace. The killing of all streptococci and other organisms of sepsis, both local to the patient and local to the surgeon, is obviously the grand ideal, but its achievement is beyond our powers at present. The main harbors of sepsis, however, are known and must be attacked; the routes and modes of infection can to a large extent be stopped up or countered, while tissue resistance must be exalted if a method can be found, and in the meantime preserved at its highest possible level by avoiding all unnecessary tissue injury.

Choreic Posture of Hand.—Brain says that the "choreic" posture, of flexion of the wrist and hyperextension at the metacarpophalangeal joints, is a normal synergic muscular relationship. It differs from the normal posture only in being exaggerated. This exaggeration is the result of the hypotonia of the antagonistic muscles, which in turn is a local manifestation of the general hypotonia occurring in chorea. The same exaggeration of this posture is to be found in other states associated with hypotonia. The "choreic" posture does not afford any evidence for the existence of a "physiologic shift" in chorea, or for any disturbance of the corticospinal system, being entirely explained by the hypotonia. The term "choreic posture" is misleading, and the phenomenon would be better described as "the hypotonic posture of the hand."

Case of Syphilis of Uterus.—Billig reports the case of a woman, aged 35, who complained of left-sided pain radiating down the leg. She had one child, 6 years old, and had had three miscarriages in January, April and September, 1926. Except for rheumatic fever at 18 and an appendicectomy in 1924 she had been fairly healthy, though anemic. There was no history of sore throat, alopecia or skin rashes, except for a single patch of psoriasis on the arm, present for the last five years. The husband was healthy and did not give any history of syphilis. On admission general physicial examination did not reveal any abnormality other than a palpable spleen. The uterus was enlarged and bulky. Fibroids were diagnosed, and a panhysterectomy was performed with removal of both tubes and ovaries, as at the operation the appearance of the fibroid was strongly suggestive of sarcoma. Microscopic examination of the uterus through the fundus showed the myometrium infiltrated with gummas of varying size, mostly miliary. Miliary gummas were present throughout the endometrium. Sections through the uterine vessels showed very markedly increased thickness of the walls, chiefly of the intimal coat. The vasa vasorum were dilated and showed perivascular infiltration with lymphocytic cells. There was some increase in the subendothelial tissue. Some vessels showed subendothelial plaques with proliferation of the media, and some showed almost complete obliteration of the lumen. The smaller vessels showed well marked perivascular reaction with the formation of gummas. Sections of the tube showed a similar gummatous reaction in the subserous and muscular coats.

1: 483-534 (March 10) 1928

Abscess of Brain. E. M. Atkinson.—p. 483.
Mechanism and Elements of Pleural Pain. A. I. G. McLaughlin.—p. 489.
Chronic Osteomyelitis in Long Bones. H. Hallilay.—p. 490.
*Fractional Test Meal Analysis. J. Patterson.—p. 492.
*Meinicke Microreaction. D. Prentice.—p. 493.
Facial Neuralgia Associated with Pulmonary Abscess. R. C. Hutchinson and J. S. B. Stopford.—p. 494.
Case of Traumatic Pancreatitis. H. R. Mayo and E. A. Ellis.—p. 495.

Estimation of Total Chlorides in Stomach Contents.—Patterson describes a new method for the estimation of the total chlorides in the gastric contents. The standard method of estimation is to render the sample alkaline, evaporate to dryness, incinerate, and finally determine the chlorides by

Volhard's method. The preliminary process takes time and the incineration requires cautious manipulation, patience and skill. A Volhard titration on the original fluid is vitiated by the presence of protein. Patterson eliminated this by enormously increasing the proportion of nitric acid to test meal sample in the mixture to be titrated. The whole determination is carried out in one operation, requiring no more than a simple titration of the Volhard type, and in less than one-tenth the time formerly occupied. Two-tenths cubic centimeter of filtered fluid in a blood pipet is carefully discharged into 3 cc. of pure nitric acid contained in a wide test tube. One cubic centimeter of thirtieth-normal silver nitrate solution, and then 4 cc. of pure acetone are added, the latter giving a sharp end-point. After adding three drops of a saturated solution of iron alum as indicator, Patterson titrates finally from a 5 cc. microburet with alcoholic ammonium thiocyanate, previously standardized against the silver nitrate. (Ordinary aqueous thiocyanate of tenth-normal strength diluted with two volumes of alcohol is a suitable solution.) Using solutions of exactly thirtieth-normal strength, if x is the number of cubic centimeters required in the titration, then $(1-x) \times \frac{100}{0.2} \times \frac{1}{3}$ gives the degrees of total chloride (i. e., the number of cubic centimeters of tenth-normal chloride in 100 cc. of fluid). To convert this into percentage hydrochloric acid, multiply by 0.00365.

Diagnostic Value of Meinicke Reaction.—The serum of more than a thousand patients has been tested by Prentice, using the Meinicke reaction. In 429 of these the Wassermann test has been done as a control, and there is an agreement between the results of the two tests in 93.3 per cent of the cases. The main source of disagreement between the readings was in those general paralytic patients in whom there was a modification in the serologic observations after a course of treatment by malarial inoculation and trypars-amide. On the whole, the test has almost doubled the number of those diagnosed as syphilitic. A fresh observation made is that a delayed positive reaction has been noted on two occasions, so that it is advisable to reexamine the slides eight or nine hours after the test has been completed.

Practitioner, London

120: 137-208 (March) 1928

Perforation of Gastric and Duodenal Ulcer. B. Moynihan.—p. 137.
*Tests for Drunkenness. J. Purves-Stewart.—p. 175.
Prevention and Treatment of Pneumonia. J. Barr.—p. 189.

Tests for Drunkenness.—Purves-Stewart submits a definition of drunkenness: A drunken person is one who has taken alcohol in sufficient quantity to poison the central nervous system, producing a temporary disorder of the faculties so as to render him unable to execute the occupation in which he was engaged at the time, thereby causing danger to himself or to others. Then he discusses various tests and examinations that are or can be made to determine whether a person is drunk. In his opinion, the best physical evidence of all is a positive reaction for alcohol in the cerebrospinal fluid. But, after all, the important point is whether a person is in a fit condition to pursue efficiently his ordinary daily avocation in life. There is no short cut to the accurate diagnosis of drunkenness. The only safe guide is by means of careful and systematic clinical examination.

South Africa M. Association Journal, Cape Town

2: 53-80 (Feb. 11) 1928

Tonsillectomy: Common Complications. H. R. Haigh.—p. 55.
Affections of Heart in Elderly People. A. G. Thomas.—p. 56.
*Diverticulum of Human Heart. M. R. Drennan and G. T. van der Vijver.—p. 58.
Gallbladder Surgery. R. Daly.—p. 60.
Rejuvenation. H. V. Exner.—p. 63.
*Spontaneous Birth of Child After Death of Mother. C. C. Brown.—p. 64.
Carcinoma of Breast and Secondary Invasion of Bones. R. A. Barlow.—p. 64.
Death During Anesthesia: Status Lymphaticus. S. S. Hoffmann.—p. 65.

Diverticulum of Heart.—Drennan and van der Vijver report a case of sudden death in a child, aged 4 years, as a result of perforation of a ventricular diverticulum. The case seems to indicate that the center of the vortex of superficial muscle fibers, situated at the left apex, is a weak spot in the cardiac architecture, which gives way and herniates outward, when for some reason or other the musculature in this region is poorly developed, or there is a relative increase in intraventricular pressure owing to some resistance to the outflow of blood from the heart. The absence of hypertrophy or dilatation of the wall of the left ventricle and the perfect condition of the aortic valves negative any chronic strain as a factor in this case, although they do not preclude a sudden temporary strain during intra-uterine life or even at birth from being responsible for it.

Spontaneous Birth of Child After Death of Mother.—In the case reported by Brown, a pregnant woman had been dead about sixty hours before her body was found. There were signs of putrefaction in the skin and general emphysema. The vagina was not gaping. During the removal of the body from the hut, an eight months fetus, weighing 6 pounds (2.7 Kg.), was spontaneously expelled. The inverted uterus prolapsed, showing the placenta still attached. There was no tear of the perineum. The uterus was normal. The fetus showed slight peeling of the epidermis, but otherwise no signs of putrefaction.

Tubercle, London

9: 257-304 (March) 1928

*Treatment of Tuberculous Empyema by Replacement with Air. G. T. Hebert and W. E. Chiesman.—p. 257.
*Initial Hemoptysis. S. V. Pearson.—p. 269.

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Treatment of Tuberculous Empyema.—Eleven cases are reported by Hebert and Chiesman to prove that tuberculous empyema can be treated satisfactorily by repeated replacement with air. Air replacement allows of a gradual reexpansion of the compressed, as well as the collapsed, lung, and a gradual reduction of the mediastinal displacement; therefore it reduces to a minimum the risk of causing reactivation of the pulmonary tuberculosis, and obviates distress to the patient. The essential feature of the treatment is the healing of the pleura promoted by contact with air instead of with fluid. The average number of replacements is ten, extending over a period of about a year. Patients are well enough to return to work in about three months from the beginning of the treatment.

Initial Hemoptysis.—Pearson is convinced that the occurrence of hemoptysis of the type of an initial hemoptysis can be avoided sometimes by attention to its associated symptoms, and more often still can recurrences of such hemorrhages be obviated by such means. If several of these symptoms are present, more rest and an aperient may lessen the hemorrhagic tendency and very possibly help to stem an increase in a fresh growth of tubercles in the lungs.

China Medical Journal, Shanghai

42: 69-150 (Feb.) 1928

*Cancer Among Chinese. J. L. Maxwell.—p. 69.
Cancerous Diseases of Skin. F. Reiss.—p. 80.
Toxemias Occurring During Latter Part of Pregnancy. S. R. Parsons.—p. 85.
Hypodermic Medication in Hospitals in China. J. Cameron.—p. 92.
Wuhu General Hospital. R. E. Brown.—p. 97.
Leprosy in India: Survey. R. G. Cochrane.—p. 108.
Case of Polyhydramnion. C. W. Service.—p. 109.
Multiple Gunshot Wounds: Case. J. C. McCracken.—p. 111.
Liquid Paraffin Replacing Cedar Oil in Microscopy. H. J. Shu.—p. 114.

Cancer Among Chinese.—Maxwell analyzes 1,133 cases of malignant disease. The sites of these growths are given in 1,076 cases. According to the figures, the most frequently affected organs are the breast, penis and uterus, in the order named. It is probable, however, that if full figures could be given, cancer of the uterus would come first in frequency. Cancer of the stomach, intestines and internal viscera appears to be astonishingly rare as compared with its incidence in America. While this comparison is probably correct, the difference may not be as great as the data suggest, owing to failure in diagnosis and the comparatively smaller number among the Chinese coming for the treatment of abdominal diseases. There is also a very striking difference in the incidence of cancer of the prostate

and bladder, these being much commoner in America. Maxwell stresses the fact that these figures apply only to the relative incidence in different parts of the body and have nothing to do with the numerical prevalence of cancer in China. Until proper death certification by physicians qualified in modern medicine is enforced, it is useless to speculate on the general frequency of the disease.

Archives des Maladies de l'App. Digestif, etc., Paris

18: 1-120 (Jan.) 1928

*Postencephalitic Hirschsprung's Disease with Gastric Symptoms Predominating. R. Bensaude, A. Cain and F. Layani.—p. 5.
Dissociations and Dyssynergies of Digestive Apparatus. A. Roccaville.—p. 17.
*Toxic Serologic Syndrome in Course of Duodenal Stenosis; Treatment. A. Landau, B. Jochweds and R. Pekielis.—p. 33.
*Diagnosis of Chronic Appendicitis. K. Routkéwitsch.—p. 41.
Three Cases of Severe Diarrhea Resembling Sprue. E. Antoine.—p. 45.
*Case of Ascariasis of Biliary Tract. M. E. Binet.—p. 66.

Postencephalitic Hirschsprung's Disease with Gastric Symptoms Predominating—The authors report the case of a boy, aged 16, who presented dyspeptic disturbances, beginning after meals and lasting three or four hours, accompanied by pain in the infrahepatic region, intermittent vomiting and attacks of flatulence with passing of flatus by the anus. The appearance of the patient, along with his mental condition, points to an incomplete acromegalic syndrome, which is traceable to an epidemic encephalitis which had occurred two years before. Contrary to the rule in Hirschsprung's disease, the patient was not constipated. Diet and other treatment improved the gastric symptoms. The megacolon being otherwise remarkably well tolerated, no operation was considered.

Toxic Serologic Syndrome in Course of Duodenal Stenosis and Its Treatment.—In a case of infrapapillary duodenal constriction, due to cancer of the head of the pancreas, developing without jaundice or fatty stools, the authors discovered an increase in the alkali reserve, a diminution in the amount of chlorides, and an increase in the urea content, which have been shown as being characteristic of toxic conditions provoked by stenosis of the upper part of the digestive tract. In such stenosis it may be that the toxemia is produced by the loss of the gastric secretion, that is, by the loss of acid radicals and chlorides. A liter of the solution used by the authors contains 10 Gm. of sodium chloride and 100 Gm. of glucose. As soon as toxic symptoms appeared, the patient received daily from ½ to 1 liter of sodium chloride solution plus 2.5 per cent of glucose subcutaneously, 1.5 liters of sodium chloride solution plus 5 per cent glucose in proctoclysis, 10 cc. of calcium chloride intravenously and gastric lavage with 1 to 1.5 liters of sodium chloride solution. The final result cannot be brilliant, in view of the malignancy of the disease, but the patient has been kept alive for three weeks and immediately after each treatment the tetany disappeared. The general condition and the renal function have been improved.

Diagnosis of Chronic Appendicitis.—Routkéwitsch asserts that the pain provoked by adduction of the cecum has an absolute value in the diagnosis of chronic appendicitis. The sign is sought in the following manner; the physician standing at the right of the patient, attempts to reach the external border of the cecum with the slightly curved fingers of his right hand, and to push the cecum toward the median line. The patient with chronic appendicitis then experiences pain, which may be explained by the tension of the inflamed peritoneum at the point where the visceral peritoneum of the cecum becomes parietal.

Case of Ascariasis of Biliary Tract.—In Binet's case, that of a woman, aged 26 years, born and reared in Tunis, symptoms of mild angiocholecystitis came on three months after the birth of her child, at present 3½ years old. The relation between the angiocholecystitis and the ascariasis was clear although duodenal intubation was not done. Each time after the vomiting of an ascaris by mouth and the expulsion of ascaris eggs per rectum, the symptoms immediately improved. The attacks always came on two or three days before the menstrual periods. Alternate acetarsone and oil of chenopodium treatments were given and the patient recovered.

Bulletins de la Société des Chirurgiens de Paris

20: 113-164 (Feb. 17) 1928. Partial Index

*Sodium Chloride Injections in High Intestinal Obstruction. R. Lion.—p. 141.

Sodium Chloride Injections in High Intestinal Obstruction.—In Lion's three observations of late intestinal obstruction, the patients were in a moribund toxic state. Intravenous injection of hypertonic sodium chloride solution had a remarkable, almost instantaneous effect in all three cases and made operation possible. Further injections were followed by marked evidence of detoxication and improvement. All three patients made an uneventful recovery. Lion estimates that 1 Gm. of sodium chloride per kilogram of body weight is a sufficient daily dose. The following method is suggested: an intravenous injection of 20 cc. of a 20 per cent solution of sodium chloride is given every four hours for six doses. One liter of physiologic sodium chloride solution is injected subcutaneously.

Bulletins de la Société de Pédiatrie de Paris

26: 1-62 (Jan. 17) 1928

Friedreich's Disease. L. Babonneix and Schekter.—p. 14.
Congenital Absence of Fibula. L. Babonneix and Gorostidi.—p. 18.
Left Hemihypertrophy. R. Ducroquet.—p. 19.
Multiple Strictures of Esophagus in Girl Aged Eighteen Months: Caustic Soda Burns. A. Zuber.—p. 20.
*Familial Osteopsathyrosis and Blue Sclerotics. E. Apert, Bach and Odinet.—p. 21.
*Convulsions in Early Infancy and Congenital Syphilis. P. Nobécourt and L. Lebée.—p. 24.
Congenital Cardiac Malformations and Vegetative Endocarditis. Lereboullet and A. Bohn.—p. 29.
*Nasal Diphtheria. Ribadeau-Dumas and Chabrun.—p. 33.
Hayem's Chronic Idiopathic Purpura. J. Longchampt.—p. 43.
Prevaricellar Nodular Eruption. M. Nageotte-Wilbouchewitch.—p. 46.
Pithiatric Enlarged Abdomen in Child. H. Eschbach.—p. 47.
Sydenham's Chorea Cured by Lumbar Puncture. Cassoute, Raybaud and Montus.—p. 49.
*Congenital Malaria. A. G. Alarcon.—p. 52.

Familial Osteopsathyrosis with Blue Sclerotics.—In a family consisting of the parents and four children, the father and two of the children have fragile bones and blue sclerotics. It seems to be a law of heredity that the disease affects half of the offspring of a person who has the disease and does not reappear in the unaffected descendants of such a person. The disease is an hereditary malformation of the fibrous tissue, manifesting itself, on the one hand, by thin sclerotics, on the other by thin eardrums and by a defect of the fibrous stroma of the bones, explaining the thinness and fragility of the long bones and the easily deformed skull. The top of the skull is depressed and there are thickened areas above the ears.

Convulsions in Early Infancy and Congenital Syphilis.—Nobécourt and Lebée state that of 100 infants with convulsions, a maximum of forty or fifty were syphilitic. Of 100 syphilitic children five or six had convulsions. Of 100 infants entering the hospital, from twenty to twenty-five were syphilitic. Syphilis, although twice as prevalent in children with convulsions as in other children, should not be considered predominant in the etiology of convulsions in infants.

Nasal Diphtheria in the Infant.—Two cases of nasal diphtheria in the infant are reported by Ribadeau-Dumas and Chabrun. In the first there was a tenacious rhinopharyngitis with double otitis produced by a mild infection. The Löffler bacillus was found in the nasal fossae fifty-two days after the preventive injection of antidiphtheritic serum. The rhinopharyngitis persisted even after the curative injection. The patient's reaction to serotherapy was that of a bacillus carrier. In the second case there was rhinopharyngitis, adenoiditis and a long persisting fever. Cultures from the nasal fossae showed the presence of diphtheria bacilli. Antidiphtheritic serum here produced no improvement whatever. Every subject whose serum has an antitoxic power of more than one thirtieth of an antitoxic unit is a carrier. Every infant whose nasal fossae harbor diphtheria bacilli should be treated with serum.

Congenital Malaria.—In the first case presented by the author, *Plasmodium vivax* was demonstrated in the blood forty hours after birth; in the second case, ninety-six hours after birth. Alarcon is of the opinion that these two cases

confirm the existence of congenital malaria, since the incubation period of malaria is at least eight days. Prenatal malaria is, perhaps, the principal cause of abortion, of premature labor and of death of the fetus in malarial districts. Transplacental transmission of malaria is not the rule. It is accidental and due to certain conditions, the most important of which is the development of malaria in a syphilitic soil. In natal malaria the infant receives the infection during delivery. It is not so serious in its results as prenatal malaria.

Écho Médical du Nord, Lille

32: 85-99 (Feb. 18) 1928

*Diphtheria and Scarlet Fever in Child of Five Years. R. Pierret and A. Breton.—p. 85.
*Inguinal Hernia of Cecum. P. Razemon and P. Dupire.—p. 86.
Premonition in the Dream. A. Lumière.—p. 87.

Case of Coincident Diphtheria and Scarlet Fever.—The authors report the case of a child, aged 5 years, who presented a typical scarlet fever eruption. There was a temperature of 39 C., a rapid pulse and infrequently passed dark colored urine. The neck was swollen and there was bilateral hypertrophy of the submaxillary glands. There was a typical pseudomembranous sore throat, with grayish false membranes covering the tonsils. Diphtheria bacilli were found in the culture made from the smear. An injection of 40 cc. of serum was given immediately and 60 cc. the next day. The authors advised touching the throat with a swab impregnated with serum and at the same time treating the scarlet fever with tepid baths, Milne's method and abundant liquids. In six days the throat had become normal.

Inguinal Hernia of Cecum.—The patient, a man aged 56, had had a right inguinal hernia since the age of 25. Sixteen years ago it had begun to give symptoms. When the hernial sac, about the size of a large hen's egg, was opened, it was found to contain part of the cecum, the appendix and several centimeters of ileum. Cecoplication, cecopexy, resection of the sac and repair of the wall were done and the results of the operation were normal. The patient no longer had diarrhea. At radiologic examination eight days later, digestion was found to be completed a little sooner than is normal. This was due to the fact that Bauhin's valve was completely incontinent. The authors consider this to be a consequence of the incorrect position of the ileocecal loop for many years.

Schweizerische medizinische Wochenschrift, Basel

58: 121-160 (Feb. 11) 1928

Etiology of Osteomyelitis. G. Soberuheim.—p. 121.
Infectious Osteomyelitis. E. Looser.—p. 125.
Treatment of Osteomyelitis. E. Monnier.—p. 129.
*Treatment of Chronic Suppuration of Bone Marrow. A. Lüthi.—p. 138.
Approach to Diaphragmatic Esophagus by Raymond Grégoire's Procedure. E. Kummer.—p. 144.
Meningoblastoma of Upper Cervical Spine. H. Paschoud.—p. 145.
Importance of Ascariasis for Surgery. F. Pedotti.—p. 148.
Ganglions of Meniscus. H. Heusser.—p. 153.
Tumors of Cerebellopontile Angle. A. Ritter.—p. 154.
Picture of Myelogenous Plasmocytoma. A. Ritter.—p. 156.
Freezing and Tetanus. Ceppi.—p. 158.

Treatment of Chronic Fistulous Suppuration of the Bone Marrow.—In the treatment of chronic fistulous osteomyelitis, Lüthi finds that the use of living tissue for covering the bone wound shortens the healing time. Occasionally, he uses muscle, but most often skin. He uses U sutures of catgut at some distance from the wound edges. For the metaphyses, where there is not much loose skin, he uses double, tongue-shaped skin flaps.

Giornale di Clinica Medica, Parma

8: 735-818 (Dec. 31) 1927

*Eosinophilia in Artificial Pneumothorax. L. Ponticaccia.—p. 735.
Barbital Poisoning. G. Reggiani.—p. 768.
Mast Cell Leukemia. P. Sarzi-Sartori.—p. 784.

Eosinophilia in Artificial Pneumothorax.—The pleura reacts to artificial pneumothorax with a process characterized by the presence of eosinophil cells. This eosinophil reaction is valuable for prognostic purposes. It is absent in serious cases and ceases as soon as the healing process exceeds certain tolerance limits of the pleura. Even the slightest fluid formation is a warning sign, and any increase over from 20 to 40 cc. calls for extreme caution in continuing treatment.

Pediatria, Naples

36: 57-112 (Jan. 15) 1928

*Potassium and Calcium in Infants. V. Zamorani.—p. 57.
Splenic Pylephlebostenosis. A. F. Canelli.—p. 72.
*Mongolian Spots. A. Fiorentino.—p. 81.
Hemolytic Icterus with Erythroblastosis. U. Ferri.—p. 93.
Congenital Esophageal Atresia. G. Tropia.—p. 99.

Potassium and Calcium in the Blood of Infants.—In ten apparently normal children the blood serum showed an average of 24.34 mg. of potassium and 10.41 mg. of calcium per hundred cubic centimeters. Sixty-four other children with various diseases were studied. No change of the ratio was found in bronchopneumonia, typhoid and measles. The ratio increased in tracheobronchial adenopathies and decreased in spasmodic and nontetanic convulsive conditions. In tetany, rickets and asthma a striking change was noted.

Prevalence of Mongolian Spots in Catania.—Among 2,800 children, mongolian spots were found in 5.17 per cent. The proportion is much larger among infants, especially boys. No definite parallelism with syphilis was found.

Archivos de Medicina, Cirugía y Espec., Madrid

28: 149-188 (Feb. 4) 1928

Congenital Dextrocardia. D. Gutiérrez Arrese and A. Crespo Alvarez.—p. 149.
Hepatic Function Test. C. Jiménez Diaz.—p. 155.
Pulmonary Abscess. E. Eizaguirre.—p. 172.
*Diagnosis of Extra-Uterine Pregnancy. C. M. Larrainzar.—p. 176.

Amidopyrine Test in Diagnosis of Ectopic Pregnancy.—Applied in ten cases of extra-uterine pregnancy, the amidopyrine test proved positive in eight. Wermbter's original technic and Mandelstamm's modification gave identical results. The test will often decide the diagnosis between extra-uterine pregnancy on one side and adnexitis or ovarian cyst with twisted pedicle on the other.

Prensa Médica Argentina, Buenos Aires

14: 777-804 (Dec. 30) 1927

Tuberculosis of Pubic Bone. N. Tagliavacche and L. A. Weber.—p. 777.
*Etiology of Vulval Pruritus. Varela, H. Garcia de San Martin and P. Rubino.—p. 781.
Surgical Care. A. Wybert.—p. 785.
Surface Tension of Spinal Fluid in Cancer. A. H. Roffo and H. Degiorgi.—p. 792.

Vaginal Trichomonas as Cause of Vulval Pruritus.—Intestinal trichomonas infection is common in Uruguay. In two cases of vaginal trichomoniasis, severe vulval pruritus subsided after the parasites were driven out. In one patient a flare-up several times coincided with the reappearance of the parasite.

Revista Médica de Barcelona

9: 1-96 (Jan.) 1928

*Thallium in Treatment of Ringworm. A. Peyri.—p. 12.
Kidney Disease in Syphilis. A. Rocha Carlotta.—p. 21.
Treatment of Pott's Disease. A. Cortés Lladó.—p. 24.

Use of Thallium in Treatment of Ringworm.—Thallium acetate, even when combined with applications of iodine, cured ringworm of the scalp in only 70 per cent of seventy-four children. This is contrasted with 100 per cent of cures with roentgen rays. Thallium at the curative dose of 8 to 9 mg. per kilogram of body weight may cause accidents (as occurred in 26 per cent of the cases), and even death from toxic encephalitis. Thallium should, therefore, be used only when roentgen-ray treatment is out of reach.

Archiv für Gynäkologie, Berlin

133: 1-192 (Jan. 6) 1928

*Treatment of Placenta Praevia. J. Füth.—p. 1.
*Appendicitis in Pregnancy. O. Pankow.—p. 5.
Hysteroscopy. C. J. Gauss.—p. 18.
*Uses of Tamponade in Obstetrics. W. Zangemeister.—p. 28.
Congenital Adenoma of the Lung: Its Connection with Generalized Fetal Hydrops and Acute Hydramnion. P. Esch.—p. 32.
*Eclampsia Early in Pregnancy. R. Füth.—p. 40.
*Physiology of Circulation in Pregnancy and Puerperium. W. Haupt.—p. 47.

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Indirect Metaplasia of the Ectopic Cylindrical Cell Mucous Membrane of the Portio. H. Hinselmann.—p. 64.
*Probabilities of Conception in Childless Marriages. G. Kaboth and J. Kleefisch.—p. 70.
Polychromasia in the Blood of Fetuses and New-Born Infants. A. Ewald and P. Wirz.—p. 85.
*Adult Teratoma of the Placenta. J. Küster.—p. 93.
Sarcoma of the Vagina in a Child. K. Adler.—p. 100.
*Diuresis Tests in Pregnancy and Puerperium. C. Holtermann.—p. 121.
*Regulation of Pregnancy Acidosis: Its Connection with Carbohydrate and Fat Metabolism. H. R. Schmidt and T. Wingen.—p. 127.
Lüttge-von Mertz Alcoholic Extract Reaction. H. Rupp.—p. 143.
Persisting Foramen Primum in Septipara. P. Jonen.—p. 150.
Rupture of Symphysis During Labor. E. Düntzer.—p. 159.
*Wheal Reaction in Early Diagnosis of Pregnancy. P. Obladen.—p. 169.
*Cyclic Variations of the Sex Hormone Content of the Blood in Women. H. Hirsch.—p. 173.
Increase in Atonic Hemorrhages of Third Stage of Labor After the War. A. Ujma.—p. 182.
*An Endothelial Tumor of the Uterus. F. Klee.—p. 186.

Placenta Praevia.—In 1907 and 1927 Füth made inquiries of midwives in the Coblenz district concerning placenta praevia. In the 606 cases comprised in the later report, cesarean section was done sixty-nine times. The maternal mortality was 14 per cent for the cases of the second questionnaire as compared with 19.7 per cent for those of the former. The deaths from hemorrhage were 10 and 13.5 per cent, respectively; from fever, 3.4 and 4.2 per cent, respectively. In 1.65 per cent of the cases comprising the first report and in 1 per cent of those of the second report, the woman died before delivery. The percentage of children born alive in the report of 1927 was 58.7; in the report of 1907, 51 per cent. Füth ascribes the improvement to less frequent use of tamponade and to the fact that it has become more usual to take these patients to hospitals. If it is necessary for the general practitioner to treat the patient at home, extra-ovular metreurysis should be carried out at once. After expulsion of the metreurynter, version should be performed and then the birth should be left to the uterine contractions. Extra-ovular metreurysis can be performed before the os uteri is sufficiently dilated to admit two fingers.

Appendicitis in Pregnancy.—After the first three months of pregnancy, the diagnosis of appendicitis may become difficult. Confusion with pyelitis is most frequent. Pankow calls attention to the not infrequent presence of large numbers of colon bacilli in the urine in the beginning of acute appendicitis. A rapid and easily compressible pulse suggests appendicitis, even in the absence of leukocytosis, fever, muscle tension and tenderness. The mortality is from 25 to 35 per cent. The prognosis is favorable only if operation is performed within the first forty-eight hours. In this case, the prospect for the continuation of the pregnancy is also good. After the first forty-eight hours, immediate operation is likewise indicated. In the case of abscess in Douglas' culdesac, the abscess cavity must be opened by way of the vagina or rectum, the latter when the birth is expected shortly. The removal of the appendix may be postponed till after delivery, except in cases in which the abscess was opened in the early months of pregnancy and signs of a new attack present themselves. If interruption of the pregnancy is necessary because of involvement of the uterus or adnexa, he recommends, first, removal of the appendix and then immediate surgical evacuation of the uterus.

Use of Tamponade in Obstetrics.—Having pointed out the dangers of tamponade (infection and concealed hemorrhage), Zangemeister states that this procedure can be of great value in hemorrhage from fresh lacerations of the cervix. Suture does not effect hemostasis when the bleeding vessels are in the parametrium, which is often the case in severe hemorrhage from laceration. Instead of gauze, Zangemeister uses superfatted cotton-wool packed in a tube of gauze. This material does not absorb fluid. A substance furthering coagulation is incorporated in the tamponade. External compression is also applied.

Eclampsia Early in Pregnancy.—Füth reports a fatal case of eclampsia in a woman, aged 22, in the fourth month of a first pregnancy. She entered the clinic with a provisional diagnosis of appendicitis. Criminal abortion was suspected. Hemorrhage set in, and two epileptiform attacks occurred. A dead fetus was removed by hand. The attacks were renewed and the patient became deeply somnolent. Bilateral renal decapsulation was performed, but the patient died five and three-quarters hours from the first eclamptic attack. Necropsy was performed. There were no gross lesions in the brain and only slight changes in the liver and kidneys.

Physiology of the Circulation in Pregnancy and Puerperium.—From studies made on eleven healthy women during pregnancy and in the puerperium, Haupt concludes that the increase in the work of the heart in pregnancy is determined chiefly by changes in the minute volume of the heart and to a lesser degree by changes in the blood vessels. A change in the work of the heart can take place without a change in the blood pressure. The minute volume of the heart and of the pulse were altered in the same direction in eight of twelve women examined during pregnancy and the puerperium; in the remainder they were altered in opposite directions. The work of the heart was about 44 per cent greater in pregnancy than in the puerperium; the work of the pulse, about 26 per cent greater.

Probabilities of Conception in Childless Marriages.—From studies made on 1,000 married women, Kaboth and Kleefisch conclude that a method of treating sterility can be considered successful only if it fulfils the following conditions: In cases of two or three years of childless marriage, it must raise the percentage of conceptions occurring in the following six months to appreciably above 10 per cent. After a childless marriage of from three and one half to six years' duration, the percentage of conceptions must be greater than 7 per cent. After a childless marriage of more than seven years, a small number of conceptions in the six months following the treatment are enough to indicate it as successful.

Adult Teratoma of the Placenta.—Küster reports a case of teratoma of the placenta in a primipara, aged 33, the second case, he says, in the literature. The birth occurred spontaneously at the end of the eighth month of a normal pregnancy. The child lived and was free from deformities. The teratoma, the size of a walnut, was attached by a pedicle to the chorion, about 3 cm. from the insertion of the umbilical cord. It was partially covered with amnion, partially free. It was composed of mature tissue of ectodermal and mesodermal origin. Its changes can best be explained, in his opinion, by the Marchand-Bonnet blastomere theory, assuming that, at a time when complete separation from the rest of the embryo was still possible, somatic blastomeres became detached and found their way to the site later occupied by the fetal side of the placenta and here led to the development of the bidermoma.

Diuresis Tests in Pregnancy and Puerperium.—Kauffmann's modification of Frey's diuresis test (comparison over considerable periods of time of the amounts of urine excreted in the horizontal position and with the foot end of the bed raised) was applied by Holtermann to detect circulatory disturbances in pregnant and puerperal women. A positive result, i. e., larger amounts excreted with the foot end of the bed raised, denotes slight pathologic retention of water. The result was positive in 24 per cent of forty-one healthy women between the sixth and tenth months of pregnancy. By no other method had edema been demonstrated. In twenty-one pregnant women with slight edema not, apparently, of cardiac or renal origin, the result of the test was positive in 48 per cent. In neither of these groups did any connection appear between the positive outcome of the test and the age of the patient, the period of pregnancy, the course of labor or puerperium or the sex of the child. In pregnant women with high grade edema, the test generally gave a negative result. In the puerperium it was positive in 40 per cent of the cases. At this time it frequently gave in the same patient a different result from that obtained during pregnancy.

Regulation of Pregnancy Acidosis; Its Connection with Carbohydrate and Fat Metabolism.—Schmidt and Wingen's studies were carried out with Verzar's modification of Barcroft's apparatus for analyzing the gases of the blood. The results showed that the large carbohydrate requirement in

pregnancy is met partly by conversion into glycogen of fat that is now carried into the liver in unusually large amounts. In the course of the transformation, acid by-products are likely to appear, which use up a certain amount of the alkali reserve of the blood and thus lower the blood capacity to bind carbon dioxide. The result is a lowered alveolar carbon dioxide tension. This entire process undergoes variations according to the degree of carbohydrate insufficiency in the metabolism.

Wheal Reaction in Early Diagnosis of Pregnancy.—An isotonic solution of sodium chloride introduced subcutaneously, in a dose of 0.2 cc., into the flexor side of the forearm or leg of a person at rest in bed causes a wheal which persists for sixty minutes under normal conditions. In 95 per cent of seventy-eight cases of pregnancy of from one to three months' duration, Obladen found the time of disappearance of the wheal diminished to fifty minutes or less. Three or four days after complete expulsion of the embryo, the time required for disappearance of the wheal was again normal. In ectopic pregnancies the reaction was not so constant.

Cyclic Variations of the Sex Hormone Content of the Blood in Women.—The sex hormone content of the blood begins to rise in the beginning of the menstrual period and increases up to the day before menstruation begins. It begins to fall when menstruation appears and continues to fall for the next few days. In the menstrual blood its concentration is from three to six times as great as in the circulating blood. In pregnancy the amount of hormone in the blood increases steadily up to parturition. In the puerperium there is a steady decline until twelve days after the birth, when it is no longer demonstrable.

An Endothelial Tumor of the Uterus.—The tumor in the case reported by Klee consisted of myomatous and endothelial portions, the latter predominating. He describes it as a "collision" (R. Meyer) of two tumors of different sorts and independent origin. Eight months after removal of the tumor (the uterus was not extirpated), the patient was well. There were no signs of pregnancy.

Archiv für Kinderheilkunde, Stuttgart

83: 1-160 (Jan. 5) 1928

Body Carriage and Body Length in First Year of Life. M. Hohlfeld. —p. 1.
Temperature Observations on Children at a Health Resort. A Mertz and A. Chassel.—p. 18.
*Congenital Rickets. W. Greiff.—p. 23.
*Active Immunization in Scarlet Fever. H. Buschmann.—p. 33.
Congenital Syphilis. R. Fischl, B. Epstein and F. Breinl.—p. 44.
Blood Eosinophilia in Ascariasis. K. Hille.—p. 56.
Presence of Spirochaeta Pallida in Conjunctival and Nasal Secretions of Congenitally Syphilitic Infants: Behavior of Conjunctiva in Eruptive Stage of Congenital Syphilis. F. Weiss.—p. 68.
Calcium and Phosphorus Contents of Blood Serum of Infants. O. Ulmer and E. Hillenberg.—p. 106.

Congenital Rickets.—There is a relationship between congenital softness of the skull and decrease of the serum phosphate. Of the fourteen children (including premature infants) with congenital skeletal anomalies, examined by Greiff, seven had lowered serum phosphate, while of 100 new-born infants, twenty-three had lowered serum phosphate. There is a relationship between an abnormally low serum phosphate in the new-born and the subsequent appearance of clinical rickets. Of fourteen new-born infants with decreased serum phosphate, nine later had clinical rickets; of twenty-two new-born infants with normal phosphate content, only three developed rickets. Decreased phosphate content of the blood is much more frequent in premature than in full-term infants.

Scarlet Fever: Active Immunization, Its Influence on Leukocyte Picture and Results.—From his investigations Buschmann concludes that protective inoculation against scarlet fever with Dick toxin subcutaneously and intracutaneously exercises an influence on the leukocyte picture. There occurs an increase in the number of neutrophil eosinophils and lymphocytes which lies beyond the limits of physiologic fluctuations. To protect against scarlet fever by means of inoculation, it is apparently necessary that a considerable increase of leukocytes be brought about by the inoculation. If there is an increase in leukocytes, even with repeated positive Dick reactions, there is immunity to scarlet fever. The result of the Dick test is not a dependable criterion of the condition of immunity of the organism.

Dermatologische Wochenschrift, Leipzig

86: 325-352 (March 10) 1928. Partial Index

Congenital Fistulas in the Ear. A. Steiner.—p. 325.
*Medicated Laminaria Bougies in Cervicitis and Urethritis. I. Saudek.—p. 328.

Medicated Laminaria Bougies in Cervicitis and Urethritis.—Saudek coats laminaria bougies with gelatin containing a solution of silver nitrate, zinc sulphate or copper sulphate. When the gelatin has hardened, the bougie is introduced into the cervix or into the urethra (in man or woman), where it is left for from two to three hours. By the swelling of the bougie, the drug is forced into the mucous membrane. The bougies are disinfected by washing and by soaking for one hour in a 1 per cent solution of carbolic acid. Saturation of the bougie with the medicinal solutions mentioned, without the gelatin, destroyed its power of expansion. However, in experimenting with solutions, he found that saturation of the bougie with simple syrup increased its swelling capacity one quarter; it also caused it to expand more rapidly. He commends this observation to obstetricians. He describes, further, a method of treating urethritis and prostatorrhea by suction.

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Deutsche medizinische Wochenschrift, Berlin

54: 213-256 (Feb. 10) 1928. Partial Index

So-Called Traumatic Neurosis. M. Reichardt.—p. 213. C'td.
*Treatment of Malignant Diphtheria with Combined Diphtheria and Streptococcus Antitoxin. F. Meyer.—p. 215.
Id. H. Finkelstein and E. Königsberger.—p. 218.
The Diet Kitchen and Its Superintendent. M. Matthes.—p. 219.
Fever Treatment in Various Stages of Syphilis. W. Richter.—p. 222. C'td.
Treatment of Addiction to Alkaloids. P. Wolff.—p. 224. C'tn.
Remissions in Pernicious Anemia and Evaluation of Liver Treatment. A. Sonnenfeld.—p. 226.
Treatment of Chronic Urticaria with Alkalis and Salt-Poor Diet. L. Dinkin.—p. 228.

Treatment of Malignant Diphtheria with Combined Diphtheria and Streptococcus Antitoxin.—Bacteriologic investigation of malignant (toxic, septic) pharyngeal diphtheria shows large numbers of hemolytic streptococci in 50 per cent of the cases. For the examination the blood smear is used as well as the Löffler serum culture. The streptococci form a poison which provokes, at the place of introduction, changes similar to those produced by diphtheria toxin (necrosis, severe cellular and fibrinous inflammation), severe changes in the heart muscle and in the liver and very severe anemia. This true streptococcus toxin is capable of forming antitoxin which can be tested as to its activity and strength in experimental animals. This tested streptococcus antitoxin should be injected in all cases of malignant diphtheria simultaneously with the diphtheria antitoxin, since it is harmless in all cases and is necessary to recovery in the 50 per cent of the cases in which there is poisoning by the streptococcus.

Deutsche Zeitschrift für Chirurgie, Leipzig

208: 89-288 (Feb.) 1928

*Rôle of Infection in Postoperative Thrombosis and Embolism. W. Stöhr and F. Kazda.—p. 105.
*Determination of Peptides in Surgical Diseases. R. Kraft.—p. 126.
Variations in Indications for and Technic of Prostatectomy. V. Blum. —p. 152.
Influence of Transplantation of Testis on Puberty. J. Bauer.—p. 172.
Gynecomasty. S. Erdheim.—p. 181.
*Diplococcus Peritonitis in Children. H. Salzer.—p. 226.
Intussusception in Childhood. E. Ruff.—p. 236.
Stricture of Rectum in Gynecologic Diseases. R. Joachimovits.—p. 263.
Unilateral Femur Flexum Varum; Remarks on Shortening of an Extremity. G. Engelmann.—p. 276.

The Rôle of Infection in Postoperative Thrombosis and Embolism.—From the study of necropsy material, the authors conclude that local as well as general infection leads more frequently to infarct formation than to thrombosis and subsequent embolism. Local postoperative thrombosis, without any evidence of suppuration at autopsy, gave rise to

massive embolism in 87.5 per cent of cases. Embolic migration of thrombi in noninfected patients was almost six times as frequent as in the cases of local thrombosis with infection. The mortality from embolism was, if anything, somewhat higher in the noninfected patients. While infection undoubtedly plays a part in the genesis of local thrombosis, its rôle in extension of the thrombotic process is apparently a subordinate one. In 102 autopsies on patients who died from metastatic thrombi, there were nine cases of obesity; in sixteen, no constitutional abnormality of any kind was noted. From these figures it does not appear justifiable to speak of a special predisposition. It may be of significance that one third of their patients were operated on for malignant tumor.

Determination of Peptides in Surgical Diseases.—The peptide content of the blood and of the urine of patients may be utilized as a peptolytic index, a measure of tissue destruction. Its application in surgical diseases is of interest in so far as it may throw some light on the question of temperature, of fever due to increased metabolism, and on variations in different diseases, thus leading to diagnostic and prognostic suggestions. The cases studied comprised seven of appendicitis, one of adnexitis, thirty-eight of biliary disease, fourteen of gastric or duodenal ulceration, three of ptosis of the stomach, and two of postoperative peritonitis. The conclusions drawn are as follows: The method is not to be regarded as a specific reaction in a given disease, but as a measure of cell destruction. The peptolytic index thus obtained varies, however, with the tissue involved as well as with the kind of trauma. For this reason it may be of value in the differential diagnosis of certain diseases. Thus, gallstone disease shows a very high index, whereas it is low in ulcer of the stomach and duodenum. The index is high in typhoid fever and is low in appendicitis. It is raised in postoperative abscess and in abscess of the abdominal wall, but is not raised in postoperative pneumonia with its accompaying high fever.

Pneumococcus Peritonitis in Children.—Salzer is of the opinion that pneumococcus peritonitis in children is not as rare as most clinicians think. He further insists that differential diagnosis between it and peritonitis of appendicular origin is possible. He made a correct diagnosis in twenty-one out of thirty-one cases. The differential diagnosis is of the greatest importance, because of the difference in treatment of the two diseases. He calls attention to the very high mortality which has attended all of the operative attempts in the early stages of a pneumococcus peritonitis. In his clinic, six out of eight died from an early operation. Out of twenty-one diagnosed cases treated conservatively in the early stage, recovery took place in fifteen. The treatment in the early stage should be palliative and supporting. The infection is always diffuse from the beginning. If the patient survives the early stage, the pus is either absorbed or becomes encapsulated. At this stage it is treated by incision and drainage. The disease is practically limited to girls. In a boy, one is much more likely to find pneumococcus appendicitis. For this reason, no attempt at differentiation should be made in boys. They should be operated on at once. In girls, a vaginal smear will frequently reveal the pneumococcus character of the infection.

Medizinische Klinik, Berlin

24: 241-280 (Feb. 17) 1928. Partial Index

Surgical Treatment of Gallstone Disease. N. Guleke.—p. 241.
Creation of Immunity and Cure of Severe Infections with Actual Cautery and Drugs. A. Bier.—p. 246. C'tn.
Trauma and Formation of Malignant Tumors. F. Blumenthal.—p. 249.
*Diabetic Change in the Iris. R. Salus.—p. 256.
Congenital Defect of Right Lung. M. Bönniger.—p. 258.
Treatment of Eczema. H. Sieben.—p. 260.
Biologic Evaluation of Immunizing Power of Blood in Septic Diseases and After Use of Albumin Preparations, Heterovaccines and Autovaccines. G. J. Pfalz.—p. 261.

Rubeosis Iridis Diabetica: Heretofore Unknown Diabetic Change in the Iris.—Salus describes a diabetic change of the iris, rubeosis iridis diabetica, the expression of capillary changes, which, on account of the special circulatory relations of the eyeball, results after some time in glaucoma.

Münchener medizinische Wochenschrift, Munich

75: 291-334 (Feb. 17) 1928. Partial Index

*Therapy and Pathogenesis of Migraine. Döllken.—p. 291.
Fat Flocculation by Morphine and Action of Light. H. Much.—p. 295.
Evaluation of Neutrophilic Shifting to the Left in Inoculation Malaria. B. Spiethoff.—p. 296.
Uselessness of Gallbladder Shadow in Differential Diagnosis. A. Grebe.—p. 299.
*Norms for Using Epinephrine by the Endotracheal Route in Treatment. F. Giuffrida.—p. 302.
Transient Viridans Bacteremia. H. U. Gloor.—p. 303.
"Apical Catarrh" or "Early Infiltrate"? J. E. Kayser-Petersen.—p. 311.
Case of Preputial Stones. R. Müssig.—p. 314.
Homer, Hippocrates and Rickets. O. Körner.—p. 316.

Therapy and Pathogenesis of Migraine.—Migraine is a disturbance in tension and equilibrium of the blood vessels: contraction of the arteries, widening and increased permeability of the capillaries, widening of the veins. Hence it belongs to the exudative diatheses. True attacks of migraine were provoked by the author by means of histamine, which narrows the arteries and not only widens the capillaries but makes them more permeable. Nitrous compounds widen all three types of blood vessels, but do not make the capillaries more permeable. In small doses, they regulate the action of the blood vessels. For this reason nitrous compounds regularly administered banish migraine attacks.

Norms for Using Epinephrine by the Endotracheal Route in Treatment.—Epinephrine administered endotracheally does not raise the general blood pressure; its action remains limited to the bronchial tree. Hence, an optimum therapeutic result is obtained in the treatment of hemoptysis. The dose of 1 mg. given twice a day is sufficient to control hemorrhage in the majority of cases. In order to facilitate the introduction of the remedy into the bronchial tree, the volume of the fluid should be made up to 3 cc.

Wiener klinische Wochenschrift, Vienna

41: 221-256 (Feb. 16) 1928. Partial Index

Neurologist's Views on Treatment of Syphilis. B. Dattner.—p. 221. C'td.
Carbohydrate Metabolism. H. Schur and A. Löw.—p. 225.
Continuous Irrigations of Vagina, Vulva and Rectum. R. Joachimovits and J. Schwarz.—p. 229.
Arrhythmia in Child. A. F. Hecht.—p. 232.
Goiter Prophylaxis. J. Wiesel and J. Kretz.—p. 234.
*Saccharomycetic Urethritis? K. Preis and A. Forró.—p. 235.
New Instruments for Surgical Thoracospy. A. V. Frisch.—p. 236.
Ibid. H. Maendl, E. Kornitzer and F. Leiter, Jr.—p. 237.

Saccharomycetic Urethritis?—The case reported is that of a man, aged 45 years, with syphilis and diabetes. The fibrinous membranes of the urethra were infiltrated with saccharomycetes. There was very little change in the basic tissue, which healed up on the disappearance of sugar, after antisyphilitic treatment. The pure culture of the saccharomycetes killed an experimental animal.

Zeitschrift f. Geburtshülfe u. Gynäkologie, Stuttgart

92: 473-648 (Jan. 13) 1928

Manual Delivery of the After-Coming Head. A. Martin.—p. 473.
The Trauma in Birth Paralysis of the Arm. R. J. Harrenstein.—p. 476.
Intra-Uterine Abscess in Puerperal Fever. G. H. Schneider.—p. 487.
*Posterior Occipital Presentation with Funnel-Shaped Pelvis. P. Schumacher.—p. 493.
*Isoagglutinins in Physiologic and Pathologic Fluids in Woman. E. M. Schwarzmann.—p. 505.
*Serum Examination After Clinical Cure of Carcinoma. K. Volkmann.—p. 516.
*Power of Human Serum to Destroy Anthrax Bacillus. F. C. Hilgenberg.—p. 522.
*Treatment of Hemorrhage by Irradiation of Spleen. E. Mertz.—p. 544.
Treatment of Myoma. H. Dehler.—p. 566.
*Suprarenals in Anencephalia. A. Kratsch.—p. 579.
Symptoms and Importance of Retroflexion. A. von Fekete.—p. 599.

Posterior Occipital Presentation with Funnel-Shaped Pelvis.—In a number of cases, Schumacher has found funnel-shaped pelvis as the only explanation of posterior occipital presentation. If, in addition, there is general narrowing of the pelvis, this presentation is still more likely to occur.

Isoagglutinins in Physiologic and Pathologic Fluids of Woman.—Schwarzmann found isoagglutinins in the vaginal secretion and in the contents of ovarian and vaginal cysts

in some cases. They were always present in human milk and colostrum.

Serum Examination After Clinical Cure of Carcinoma.—In two thirds of the cases of clinically cured carcinoma examined by Volkmann, the Abderhalden reaction failed to show complete return of the capacity of the serum to decompose tumor.

Power of Human Serum to Destroy Anthrax Bacillus.—Six hundred human serums were tested by Hilgenberg. The power to destroy the anthrax bacillus was absent in the first half of pregnancy in nineteen of twenty cases. It was present in cases of abortion in the second and third months. In the second half of pregnancy it was found in 90 per cent of the cases. It disappeared shortly before labor in 80 per cent and was absent shortly after labor in 93 per cent. It was found to return within six hours after the end of labor and was demonstrable in 79 per cent of the cases in the further course of the puerperium. Toward the end of the puerperium a gradual disappearance set in. The serums of new-born infants did not contain it in 88 per cent of the cases. It was found to be present during menstruation and in the course of inflammatory diseases, tuberculosis and malignant tumors. It was never found in the serum of healthy women except during pregnancy and menstruation. Hilgenberg believes that its presence is due to the products of cell decomposition.

Treatment of Hemorrhage by Irradiation of the Spleen.—In Mertz's experience, temporary success may be obtained by irradiation of the spleen in gynecologic hemorrhages of functional nature, but not in those of accidental nature. In hemorrhages on an inflammatory basis, irradiation of the spleen may be the method of choice, in view of the "biologic" activation of the protoplasm. In none of his cases of metrorrhagia of puberty or of hemorrhage of ovarian origin in sexually mature women were permanent results achieved. He obtained the best results by two or three irradiations at intervals of from three to five days. The cause of the blood coagulation after irradiation of the spleen is the increased cell destruction, with increase of the products of protein decomposition in the blood. He thinks it possible that puerperal sepsis might be successfully treated by irradiation of the spleen.

Suprarenals in Anencephalia.—In seventeen anencephalic monsters, of the twenty-fourth to the thirty-sixth week of pregnancy, examined by Kratsch, both suprarenals were present, but abnormally small. The medullary portion was not involved in this hypoplasia, but appeared often better developed than in normal suprarenals. The glomerulosa of the cortex was also well preserved; the greatest changes were found in the inner layers of the cortex. The anencephalic suprarenals showed more advanced development than those of normal fetuses of the same age. The proportion of the cortex to the medulla was the same as in normal full term fetuses.

Zeitschrift f. d. ges. Neurol. u. Psychiat., Berlin

112: 317-638 (Feb. 9) 1928

Why Do the Nerve Tracts Cross Each Other in the Central Nervous System? L. Jacobsohn-Lask.—p. 317.
Dermographic and Psychiatric Examinations in the Immediate Biologic Families of Paralytics. H. Luxenburger.—p. 331.
Pheto-Esthesiometer and Electrothermo-Esthesiometer. A. A. Suchow. —p. 492.
Modifying Eidetic Phenomena by Labyrinthine Irritation . G. Bibring-Lehner.—p. 496.
*Conformation of Body, Epilepsy and Character. G. Kreyenberg.—p. 506.
Cases and Pathogenesis of Depression. E. Wexberg.—p. 549.
Schizophrenia in Former Honor Students. G. F. Lepel.—p. 575.
*Fits in Epidemic Encephalitis. G. Sokolansky.—p. 605.
Pathophysiology of Catatonic Symptoms. V. P. Ossipow.—p. 614.
*Epinephrine Sound Experiment (Muck) in Syphilis with Positive Spinal Fluid Reaction. J. Barnewitz.—p. 623.
*Diagnosis of Congenital Syphilis by Epinephrine Sound Experiment. O. Muck.—p. 627.
Thoughts of Manic Depressive Patients. E. von Domarus.—p. 632.
Hallucinations of Schizophrenics. E. von Domarus.—p. 636.

Conformation of Body, Epilepsy and Character.—Epilepsy, whether genuine or symptomatic, shows an affinity for the dysplastic and athletic-dysplastic habitus. The epileptic type of character has a great affinity for the dysplastic habitus. In this type the attacks begin nearly always in earliest childhood and dementia quickly supervenes. On the other hand, in one third of the 700 epileptics examined by Kreyenberg, epileptoid attacks were the prominent features. These epileptoid epileptics do not deteriorate so quickly, their attacks begin later and they are generally of the athletic habitus.

Fits in Epidemic Encephalitis.—"Subcortical epilepsy" is characterized by the complete retention of consciousness during the attacks and absence of such symptoms as involuntary urination and defecation, biting of the tongue, etc., which are connected with disturbances of consciousness and are important in the differentiation of genuine epilepsy. The convulsions are generally tonic. They may be observed in the eye muscles. In some cases they develop in the form of general severe myoclonia and are sometimes accompanied by torsion movements of the body. The condition of the affective emotional sphere is no less peculiar; it is seen sometimes in the form of a clearly expressed emotion (feeling of anxiety, hatred of fellow human beings, disgust for life, etc.), which accompanies or precedes the subcortical attacks; sometimes in the impulsive-aggressive behavior, which may appear during the attack, and leads to "kinesia paradoxa" in patients with encephalitis. In some cases this emotional impulsive condition is the chief element in the picture of the subcortical attacks, appearing without any convulsive symptoms (but with kinesia paradoxa).

Epinephrine Sound Experiment (Muck) in Syphilis with Positive Spinal Fluid Reaction.—Among eighty-nine syphilitics with positive reactions in the spinal fluid, examined by Barnewitz by means of the epinephrine sound experiment, eighty-three, or 93 per cent, presented a white line, as sign of hypersensitiveness of the sympathetic nerves of the cerebral vessels. The coincidence of a negative spinal fluid reaction with the appearance of a white line does not argue against a relationship between syphilitic disease of the central nervous system or its membranes and the white streak. The epinephrine sound experiment is an aid in diagnosis.

Diagnosis of Congenital Syphilis by Means of So-Called Epinephrine Sound Experiments.—Muck presents twenty patients with congenital syphilis, demonstrated by blood or spinal fluid examinations, all of whom showed the white line or spot with the epinephrine sound test. In clinically definite cases of congenital syphilis with negative serologic reactions, the white streak is also present. The white line is, however, present in certain other pathologic conditions (hemicrania and true epilepsy, pial scars, cerebral tumors, old meningitis and encephalitis, as well as osteosclerosis and pregnancy).

Zeitschrift für Kinderheilkunde, Berlin

45: 223-364 (Feb. 1) 1928

Quarantine in Children's Hospitals. Straube.—p. 223.
Response of the Rachitic Patient to Parenterally Introduced Organic and Inorganic Phosphates. W. Heymann.—p. 232.
*Importance of Calcium in Nutrition. A. Popowa.—p. 242.
*Schick Reaction and Cow-Pox Vaccination. L. O. Finkelstein, R. A. Wilfand and E. N. Chochol.—p. 258.
Experimental and Clinical Examinations of Irradiated Ergosterol. H. Vollmer.—p. 265.
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Technic of Colloidal Mastic Reaction in Cerebrospinal Fluid and Clinical Evaluation of this Reaction in Children. W. R. Skliar.—p. 296.
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*Simple Method for Detecting Adulteration of Breast Milk with Cow's Milk. M. Zimmermann.—p. 310.
Pathogenesis of Feers' "Neurosis of Vegetative System in Childhood." G. Kühl.—p. 315.
*Whooping Cough Encephalopathy. J. Jochims.—p. 326.
Profuse Pulmonary Hemorrhages in Recurrent Endocarditis and Polyarthritis in Childhood: Mitral Stenosis of Childhood. J. Duken.—p. 333.
Influence of Diet on Excretion of Organic Acids in Urine of Infants. F. Kruse and A. Stern.—p. 346.

Importance of Calcium in Nutrition.—In Popowa's experiments with guinea-pigs with normal and scurvy-producing diets, neither the presence nor the absence of vitamin C, but the dystrophic changes produced by the administration of canned food exercised an influence on the blood calcium

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content and balance. Feeding pregnant rats with defatted foods caused weak progeny, in which, in comparison to the controls, severe disturbances in ossification appeared. The importance of the lipoids in the assimilation of calcium thus comes to light. In healthy guinea-pigs the oral administration of calcium chloride in milk or subcutaneously caused no modification of the calcium balance. It produced, however, a local reaction at the site of injection which often went on to skin necrosis. If the guinea-pigs were infected with a virulent culture of tubercle bacilli while they were getting food rich in vitamin C, tuberculosis developed very slowly and benignly. This was accompanied by normal blood calcium. There was sometimes, however, a hypercalcemia. When infection with tubercle bacilli took place in scorbutic guinea-pigs during the period of decreased blood calcium, the course of the tuberculous process was accelerated and the animal speedily died. Hypocalcemia or hypercalcemia should be considered in diagnosis and prognosis. Hypocalcemia appearing in experimental scurvy, as also in experimental tuberculosis, is always a symptom of a process running a severe course.

Schick Relation and Cow-Pox Vaccination.—Children who react negatively to the Schick inoculation before cow-pox inoculation, begin to react positively after cow-pox inoculation. This is especially plain after intracutaneous simultaneous inoculation with diphtheria toxin and cow-pox lymph, but it may be observed also after the usual cow-pox inoculation. The positive Schick reaction after simultaneous inoculation with diphtheria toxin and cow-pox lymph is obtained from the eighteenth to the twentieth day after the inoculation and continues for several months. Simultaneous inoculation with diphtheria toxin and inactivated cow-pox lymph does not provoke the positive Schick reaction.

Simple Method for Detecting Adulteration of Breast Milk with Cow's Milk.—With the following method one may determine in breast milk as little as 10 per cent of adulterating cow's milk. One cubic centimeter of the breast milk to be examined is mixed with 1 cc. of tenth normal sulphuric acid, made up to 10 cc., shaken thoroughly and allowed to stand four or five hours at room temperature. After this period, if the sample is pure breast milk, there should be no sediment; the casein flakes, being fine and containing relatively much fat and little water, rise to the surface.

Whooping Cough Encephalopathy.—Jochims reports the case of a girl, aged 14 months, who had had whooping cough for two weeks and was unconscious and rigid when brought into the clinic. The tonic convulsion of the whole body lessened only occasionally during the fortnight in the hospital. There was a transient complicating disease of the meninges. While in the hospital, the patient bit off the tip of the tongue. Tuberculosis, meningitis, brain tumor and solitary tubercle were excluded. The symptoms seemed to be due to whooping cough. This supposition was verified at necropsy.

Zentralblatt für Chirurgie, Leipzig

55: 321-384 (Feb. 11) 1928. Partial Index

Denervation of Salivary Gland After Leriche. S. Brüssowa.—p. 329.
*Artificial Respiration by Faradization of Phrenic Nerves. F. Israel.—p. 331.

Artificial Respiration by Means of Faradization of Phrenic Nerves: A New Resuscitation Apparatus.—Stimulation of respiration by faradization of the phrenic nerves has an advantage over the older methods in that it simultaneously sends centripetal stimuli to the respiratory centers. The value of the method in the resuscitation of the asphyxiated new-born has been demonstrated. Its application to adults should prove even more successful, because of the quicker response of the latter to electric stimulation. Israel describes a portable apparatus constructed for giving the treatment. The exact technic of the application is described. Faradization of the phrenic nerves should be tried first in all cases of asphyxiation. If this powerful stimulation of the respiratory system fails, it is most unlikely that the older methods will have an effect.

Zentralblatt für Gynäkologie, Leipzig

52: 1-88 (Jan. 7) 1928

Hirsch's New Operative Obstetrics. G. Winter.—p. 1.
Corpus Luteum and Amenorrhea. G. A. Wagner.—p. 10.
*Permanent Results of Ovarian Transplantation. G. K. F. Schultze.—p. 29.
Vaginal Radical Operation for Carcinoma of Cervix. W. Stoeckel.—p. 39.
Culture of Endometrium. P. Caffier.—p. 63.
Immunization with Fetal and Placental Lipoids. E. Ishikawa.—p. 75.
*Sex Determination. O. Schöner.—p. 82.
Cervical Glands with Triple Excretory Duct System. Hinselmann.—p. 87.

Permanent Results of Homeoplastic and Autoplastic Ovarian Transplantation.—Permanent success (from two and one half to six years) was obtained in 42 per cent of thirty-eight women with insufficiently functioning ovaries, treated with implantation of ovarian tissue from other women. Pregnancy took place in nine. In two of these, Schultze believes it justifiable to attribute the pregnancy to the intervention. Transplantation was undertaken in one woman from whom both ovaries had been removed two years previously. It was a failure. Autoplastic ovarian transplantation was carried out in nine women. The immediate result was good in eight, but in only three did the complete success last longer than one and one-half years. In the others menstruation still occurred after two and one-half years, but at irregular intervals; one patient suffers from severe metrorrhagia and menorrhagia.

Sex Determination.—Examination of the ovary for the corpus luteum in 590 necropsy and cesarean section cases showed that the right ovary had given rise to boys in 55.35, to girls in 44.64 per cent of the cases, and that approximately identical percentages appeared, reversed, for the left ovary. In 1,105 clinically examined cases, the percentages were: right ovary: boys 63.77, girls 36.22; left ovary: girls 63.82, boys 36.17. Schöner believes it to be proved that the sex anlage is preformed in the ovum and that the sexes follow each other in each ovary in the proportion 2:1. A new fact appearing is that more fertilized ova originate in the right ovary.

52: 89-152 (Jan. 14) 1928

*Action of Roentgen Ray in Increasing Resistance to Streptococcal Infection. F. Bass.—p. 90.
*Thrombopenia in Pregnancy. H. Lehfeldt.—p. 93.
Relations Between Insufficient Menstruation and Pregnancy Toxicosis. B. Aschner.—p. 98.
Fatal "Gestoses" Without Spasms. A. Bock.—p. 102.
New Apparatus for Giving Oxygen to Apparently Dead New-Born Infants. K. Holzapfel.—p. 105.
Use of Insulin in Pregnancy Toxicosis. O. Bokelmann.—p. 109.
Stenosis Ostium Uteri Internum After Curettage. F. C. van Tongeren.—p. 114.
Fatal Gas Gangrene Sepsis After Introduction of Sound into Pregnant Uterus. E. M. Fuss.—p. 116.
Discoloration of Abdominal Wall in Extra-Uterine Pregnancy. T. Solowjew.—p. 120.

Increase of Resistance to Streptococcal Infection from Roentgen Irradiation.—In animal experiments Bass was able to increase the resistance to the streptococcus by local roentgen irradiation. The action of the rays appeared to extend beyond the site irradiated to distant cells. He believes that the effects of the irradiation are obtained through activation of the reticulo-endothelium, not directly, but by the products of cell decomposition. Leukocytes irradiated in vitro and then brought in contact with streptococci seemed to succumb more quickly than unirradiated leukocytes.

Thrombopenia in Pregnancy.—Lehfeldt's patient was a woman, aged 28, who had always been pale, more so since the birth of her first child; signs of hemorrhagic diathesis were, however, absent, except abundant menstruation. The first few weeks of the latest pregnancy were normal. Thereafter skin hemorrhages and bleeding from the gums occurred. The blood platelets were greatly diminished in number. Both labor, which occurred at term, and the puerperium were normal. The patient continued to have hemorrhages from various parts of the body (nose, gums, uterus, etc.) for several months. She was much improved by two blood transfusions, twelve days apart. During all this time the thrombocytes in the blood were greatly decreased or entirely absent. The leukocyte picture was never pathologic, except

for a moderate shifting to the left. The erythrocyte picture presented, regularly, marked poikilocytosis, anisocytosis and polychromasis. Erythrocytes with nuclei were almost never found. The hemorrhagic diathesis reappeared after two months. The blood picture had become worse. Improvement was again brought about by two blood transfusions, six days apart. In discussing the question of the responsibility of the pregnancy for this condition, Lehfeldt points out the possibility of injury to the hematopoietic system from a previous chronic infection, manifested in polyarthritis and endocarditis.

Klinicheskaya Meditsina, Moscow

6: 129-192 (Feb.) 1928. Partial Index

Syphilis in Piatigorsk. M. A. Tchlenov.—p. 129.
*Rôle of the Reticulo-Endothelial System in Immunity. A. G. Alexeev. —p. 138.
Isoagglutinins in Mother's Milk in Nutritive Disturbances of the New-Born. A. H. Rishar.—p. 155.

Rôle of the Reticulo-Endothelial System in Immunity.—The author is opposed to the conception of the exclusive rôle of histocytes, the cellular elements of the reticulo-endothelial system, in the phagocytic activity of the latter. The term "macrophagic system" as a synonym for reticulo-endothelial system is narrow. The reticulo-endothelial system is not a functionally autonomic apparatus, it is a part of one; namely of the lymphatic system. He has shown in his researches that all the derivatives of lymphocytes display a marked macrophagic activity. The splenocytes contained in the pulp are strongly bacteriophagic; he was also able to demonstrate that the lymphocytes can become macrophagocytes through evolution. He believes that the majority of monocytes of the peripheral blood are in reality splenocytes, and not liberated reticular cells, as supposed by Aschoff. They are derived from the lymphoblasts of the spleen. The lymphatic system consists of the spleen, lymph glands, solitary follicles and lymphoid islands or reticulo-endothelium, scattered through the entire organism, and is conceived of as a functional unit without the necessity of division into autonomic components. In considering the rôle of the lymphatic system in immunity, he feels that we are now able to dismiss all hypothetic substances, such as amboceptors, complements, opsonins, aggressins, thrombocytins, etc., and substitute for them substances more definitely established from the point of view of physiologic chemistry. These substances are ferments taking part in the breaking up of albumins and of fatty substances. Immunity is conceived of as an act of digestion concerned principally with proteolytic and lipolytic action. His conception of this process differs from the already existing views, in that he assigns the principal rôle to lipases. Since the agranulocytes contain the latter in larger quantities, they play the dominant rôle in the destruction of microbes. The lipase dissolves the fatty capsule of the microbe, after which the latter is either swallowed by neutrophils or is dissolved in the plasma, which in itself contains a certain amount of protease. The lipolytic ferment therefore plays the dominant rôle, that of the amboceptor, whereas the proteolytic ferment corresponds to the complement. To the further understanding of immunity, it is essential to cite the phenomenon of clasmatosis. During an infection, the number of unicellular elements in the peripheral blood is not increased. Instead they send out emissaries, the platelets of Bizzozero. Every agranulocyte is capable of furnishing thrombocytes through the process of clasmatosis. It appears then that the agranulocytes play the dominant rôle in the destruction of the microbe, which is essentially an act of parenteric digestion. Bacteriolysis in its first stage is the function of the lipoid component of azurophil granules of agranulocytes. There is a division of labor between the two systems, the lymphatic and the myeloid, both as concerns the intermediary metabolism and in their immunologic functions. Lymphoid elements, because they are rich in lipase, participate in fatty metabolism while playing a dominant part in immunity by dissolving the fatty capsule of the microbe. The myeloid elements, because they contain proteolytic, glycolytic, and oxidizing ferments, participate in carbohydrate metabolism. In immunity their function is to furnish protease (complement) which completes the destruction of the microbe.

Nederlandsch Tijdschrift v. Geneeskunde, Haarlem

72: 1-148 (Jan. 7) 1928. Partial Index

Suprarenal Tumor in Four Year Old Child. P. Ruitinga.—p. 3.
*Ulcus Molle as Cause of Rectal Stricture. M. N. Roegholt.—p. 15.
*Inoculation Against Scarlet Fever. L. S. L. Meyer.—p. 26.
Receipt for Raw Liver Cocktail. M. C. De Boer.—p. 32.
Bilateral Spontaneous Pneumothorax. J. Elte.—p. 33.

Ulcus Molle as Cause of Elephantiasis of External Genital Organs, etc.—Roegholt has found that soft chancre may be responsible for rectal ulcers and strictures, which are particularly frequent in the Dutch East Indies. In some cases, elephantiasis of the external genital organs also occurred. He believes that the infection is carried by the lymph channels. Rectal involvement occurs in both sexes, but is more frequent in women.

Inoculation Against Scarlet Fever.—Applied to 3,247 school children in a certain district of Holland, the Dick test was negative in 27 per cent, positive in 60 per cent, doubtful in 13 per cent. It did not appear that the percentage of negative cases was higher in schools in which there had been a large number of cases of scarlet fever in the previous year, but the schools of primary and grammar grades ("lower schools") gave a higher percentage of negative cases than the kindergartens and nursery schools. The test was applied to thirty-nine children who had had scarlet fever. Six of these gave positive reactions. In two the recovery from scarlet fever was so recent that immunity was probably in the course of development. A third had had measles immediately after scarlet fever, which had perhaps disturbed the process of immunization. Of fifty-five children who had been in contact with scarlet fever patients, seventeen reacted positively and thirteen doubtfully. Immunization was carried out in all the Dick-positive children and from three to four months later 453 children were retested. The second reaction was negative in 27 per cent of 272 originally Dick-positive children, positive in 53 per cent and doubtful in 20 per cent. The older children showed a higher percentage of negative reactions on the second test than did the younger children. Of 119 children who were originally Dick-negative, 4 per cent had become Dick-positive and in 7 per cent the reaction was now doubtful. In sixty-two children in whom the reaction was originally doubtful ("plus-negative"), it was now negative in 79 per cent, positive in 2 per cent and doubtful in 19 per cent. The doses of vaccine were 0.75, 0.75 and 1.00 cc. respectively; for children under 6 years old, 0.25 cc. less. Meyer believes that the doses were too small. Four of the immunized children contracted scarlet fever; in one of these the reaction was doubtful three months after the treatment.

Finska Läkaresällskapets Handlingar, Helsingfors

70: 1-78 (Jan.) 1928

*Fibrous Osteitis with Multiple Muscle Tumors. A. Krogius.—p. 1.
Water Content of Blood in Diabetic Children. K. Widnäs—p 8
Immunization Against Measles. M. Björkstén.—p. 19.

Case of Fibrous Osteitis with Multiple Fibromyxomatous Tumors in the Muscle.—Krogius removed two egg-sized tumors of fibromyxomatous structure from the fleshy part of the thigh in a woman, aged 38, who had had five tumors in different muscles of the right thigh in the course of twelve years and grave fibrous osteitis, leading to spontaneous fractures, since childhood. A similar case is cited (Henshen). In both cases the chief localization of the osteitis was in one femur, and the tumors were in the musculature of the thigh of the same side. He is inclined to see a pathogenetic connection between the fibrous neoformations in the muscles and the fibrous transformation in the bones.

Hospitalstidende, Copenhagen

70: 1225-1248 (Dec. 29) 1927

Speed of Intestinal Passage in Rats on Normal and Insufficient Experimental Diet. S. V. Gudjönsson.—p. 1225.
*Another Case of Rat Bite Fever. K. Lehmann.—p. 1243.

Case of Rat Bite Fever.—Lehmann observed a case in a boy, aged 13, in which, as specific treatment could not be given, the characteristic picture of rat bite fever was unusually clear throughout the course and particularly well shown by the temperature curve.

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